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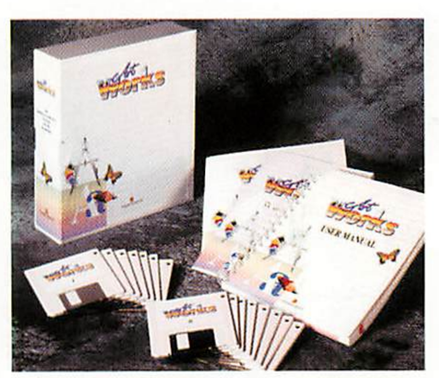
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Editor's letter

There is a general view among Acorn cynics that the Archimedes is not a suitable business machine. Whether this is because Acorn has never really pushed this area of the market, or because the cynics are overcome by 'industry standard' fever is open to debate, but if you are in any doubt about the suitability of Acorn machines for small businesses, our selection of case studies of professional Acorn users should silence the critics.

Of course, it's not just about business – this issue covers all the major professional areas, from graphics to DTP to CAD, as well as a few interesting examples such as the Hong Kong Stock Exchange and Lucas Rists' manufacture of wiring systems for cars.

So now there's no excuse for dismissing Acorns in business.

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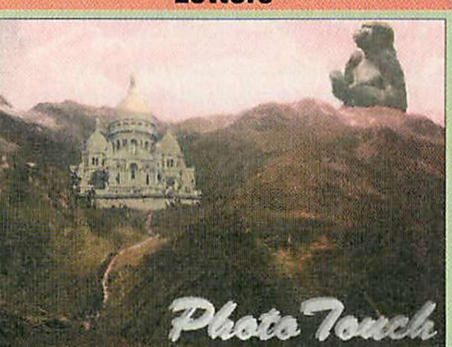
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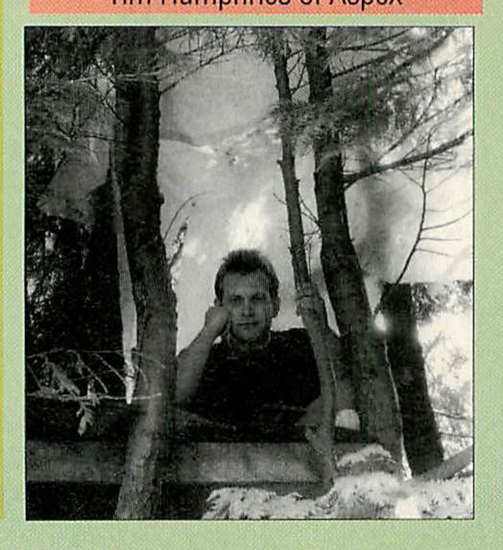
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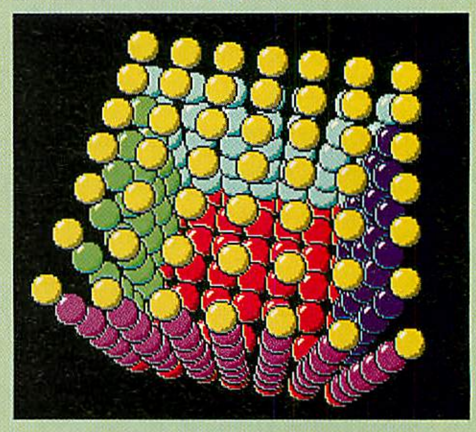
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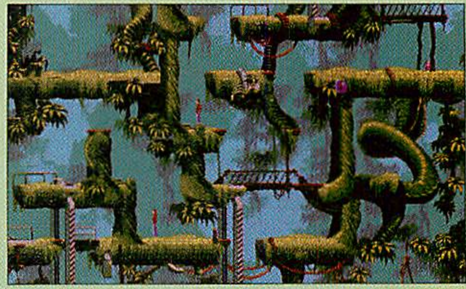




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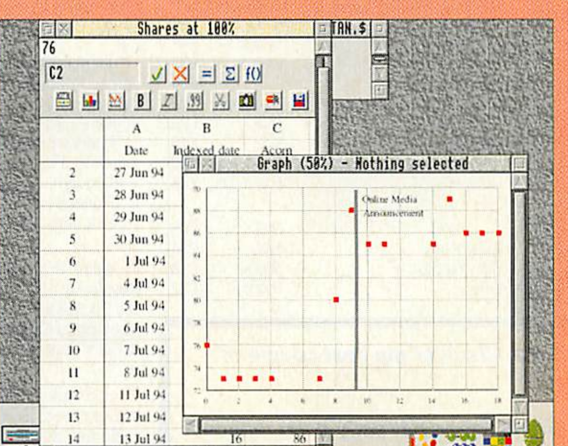
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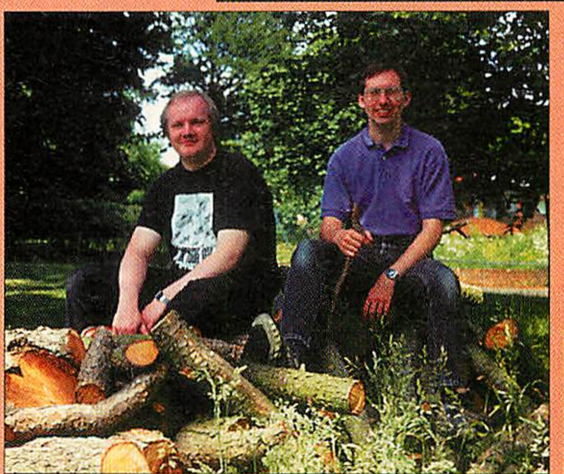
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For ordering details please turn to page 3



Acorn launches Online Media

AS REVEALED in last month's *Acorn User*, Acorn has launched a new interactive multimedia division. The new division, officially called Online Media, is headed up by Acorn's former technical director Malcolm Bird, and will remain within the Acorn Computer Group.

At its official launch, Online Media announced strategic partnerships with BNR/ Northern Telecom, Olivetti, Arm Ltd, Advanced Telecommunications Modules Ltd (ATM Ltd), News International, MAI, Anglia Television, Oracle and Cambridge Cable.

Online Media's aim is to provide technology and products which can be used in the production of interactive multimedia client hardware, like digital set-top boxes. It is starting up with 20 design, sales and marketing staff, a large number of whom have transferred from Acorn Computers. Online Media will initially make money by manufacturing set-top boxes which have a direct family connection with Acorn's traditional Risc OS computer product line.

As the business develops, Online Media will start to license its technology to third-party hardware manufacturers and Online Media designs could even find their way inside television sets just as we take teletext and Nicam stereo TV technology for granted today.

Unlike Acorn's main business to date, which – with a few exceptions – has mainly centred around the UK market, Online Media will be working to attract business opportunities across Europe as well as North America and beyond.

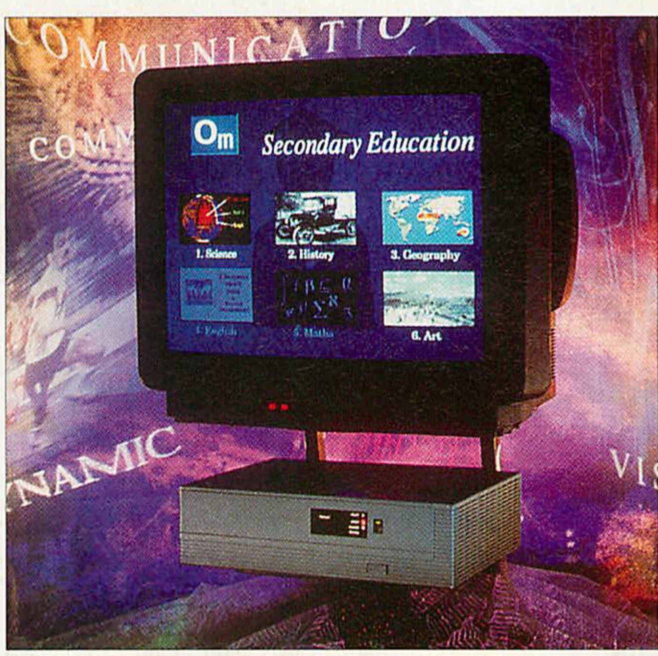
Ironically, in a world which is dominated by the PC/Intel hardware standard, Acorn's very adherence to a proprietary platform specification has proved to be a key advantage for Online Media.

Acorn computers have very good graphics, with fast local bus video and anti-aliasing built into the operating system for a smoother display, even on ordinary television screens.

Although Risc OS is a proprietary operating system, Online Media is banking on this not being a hindrance, as the client/server technology which appears to be developing in the interactive multimedia field is not platform specific.

Malcolm Bird expects platform-independent multimedia server technology

continued on page 11...



The new set-top box from Online Media: note it's on the bottom

What's in it for Acorn users?

Online Media hardware is based on the same core Acorn computer technology and operating system used in the current Acorn computer line up. In fact, it's possible to reveal a Risc OS desktop on the current Online Media set-top box prototypes.

Acorn has involved familiar third-party names in the development of Online Media components, like Wild Vision who contributed the MPEG digital motion video decompressor.

If Online Media products take off, the installed base of Risc OS-based computers will effectively explode. This will suddenly make the platform much more attractive to third-party software developers, especially in the leisure arena.

Risc OS computer users will also have a useful platform for developing multimedia presentations and documents which can be used on the interactive multimedia system for applications like advertising (estate agents, car dealers and other businesses, etc.).

At the bottom line, Online Media at last moves Acorn on from its somewhat blinkered existence, which some might say is over-reliant on the education market. Acorn now no longer has all its eggs in one basket and Online Media could help boost the traditional Acorn education market.

Online Media should accelerate Acorn's overall research and development effort, which can only be good for the personal computer line. Whatever, Online Media is likely to strengthen the original Acorn Computers business rather than divert attention away from it.

The hardware

At the launch demonstration, Acorn used a series of Risc PCs as multimedia servers linked via ATM (asynchronous transfer mode) at two megabits per second to Online Media set-top box prototypes.

Incidentally, the ATM interface hardware, developed by Olivetti Research Laboratories and associate company ATM Ltd in Cambridge, also uses Arm processors.

The prototype Online Media set-top boxes, or STBs as they are now referred to, are dark grey boxes with space for a single half height 5.25in CD-Rom drive unit.

At the rear is a pair of SCART multi-purpose AV sockets and network connectors as well as a UHF line in and out. Keyboard and mouse sockets can be found and serial and parallel port sockets are also evident.

At the front there is an LED channel and status panel. Inside, we are told, is a development of the Risc PC motherboard with the addition of the MPEG decoder and ATM interface.

Future production versions will feature an integrated 'computer on a chip' on the lines of the Arm250 currently being used in the A3010/3020/4000 Archimedes models.

An Arm7-based version of the Arm250, a single chip with a VIDC20 sound and video core and the MEMC20 memory management unit, is currently being developed by Arm Ltd and will probably be used by Online Media as well as Acorn Computers.

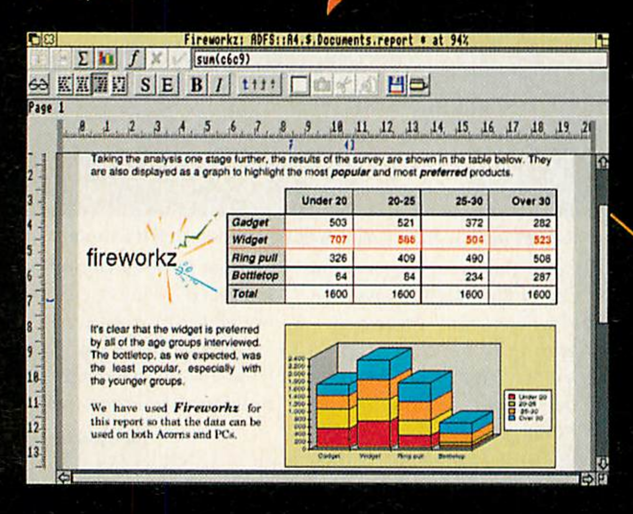
The new chip will not, however, be called the Arm750, according to *Acorn User* sources.

£149 worth of Fireworkz for £99

Until September we're doing a very special offer for Fireworkz. Over the summer period we've reduced the price from £149 to £99. You can buy a secondary site licence for £396 instead of £596.

Fireworkz

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Fireworkz for Windows is now available

We've spent the last few months on the next stage in the Fireworkz project: the Windows version. This is now available, also at the special price of £99. If you already have the RISC OS version, you can add the Windows version for £50. If you have both Acorns and PCs you can now work on your files on either machine. You can even use the same floppy disc. Fireworkz for Windows can load Lotus, Excel and RTF files. Fireworkz is the only choice, if you plan to buy PCs in the future.

fireworkz ® © 1993..4.. TM

Recordz & Fireworkz Pro

Fireworkz Pro is coming later this year. This incorporates Recordz, the next major piece in the jigsaw: it's a fast and friendly database with card layout, searching and sorting. It uses DataPower format files amongst others, shares Fireworkz' wonderful user interface and can exchange data with the spreadsheet.

ClassCardz

In conjunction with Bretton Woods School, we've been developing teaching cards for Wordz and Resultz. These are now available for £20. You get a set of A4 laminated cards which you can photocopy. These take you through the first steps with Wordz and Resultz: creating and editing documents in a wordprocessor and spreadsheet.

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Acorn in school multimedia awards

THE National Educational Multimedia Awards (NEMA) 1994 were held on July 6 in Bradford. The awards were partly sponsored by familiar names such as Acorn, Cumana and Anglia.

Over half the 80 entries had used Acorn systems, and out of the winners, six had used Acorns, five Macs, five PCs and two Amigas. The awards were presented by Dominik Diamond, presenter and producer of Channel Four's Gamesmaster programme and past Moxon interviewee.

The Initial Teacher Education Award was produced by five student teachers at the Leeds University School of Education. The winning entry – *Waterworks*, a program based around the operation of Yorkshire Water, who were partners in the scheme – was targeted at Key Stage 3.

The authors of *Waterworks* were disappointed with the educational multimedia software on the Archimedes, and believed that more schools should author their own presentations. They praised the quick learning curve of Oak's authoring package *Genesis*.

Dominik Diamond praised the IT advisers in South Glamorgan and Hampshire, where seven of the nine winners in the Under 12s category were based, saying that the adviser had made it their business to encourage primary school involvement with multimedia. The three Hampshire entries – from Frogmore Infant School, Crofton Hammond Junior School and Isambard Brunel Middle School – were all produced on Acorns.

The Death Quest, from St Edward's Primary School in Plymouth, was a surreal adventure game using photographs taken by the pupils with a still video camera, with the player being chased around a shopping centre by Death. I blame Terry Pratchett myself.

Synagogues, by Bishop Fox's School in Taunton, was praised for the care which had been taken to make the program interactive, with the user pointing and clicking on areas of interest. Using the metaphor of a book, the program provided a guided tour of a synagogue and was a winner in the under 17s awards.

The Chief Executive of the National Council for Educational Technology (NCET), Margaret Bell, said that NCET 'was delighted with the success of the awards – so delighted that we will be running a further awards scheme next year: Calling the Communicators of tomorrow: The National Educational Multimedia Awards of 1995. The challenge lies before you.'

Let's hope that many more schools take up the challenge next year.

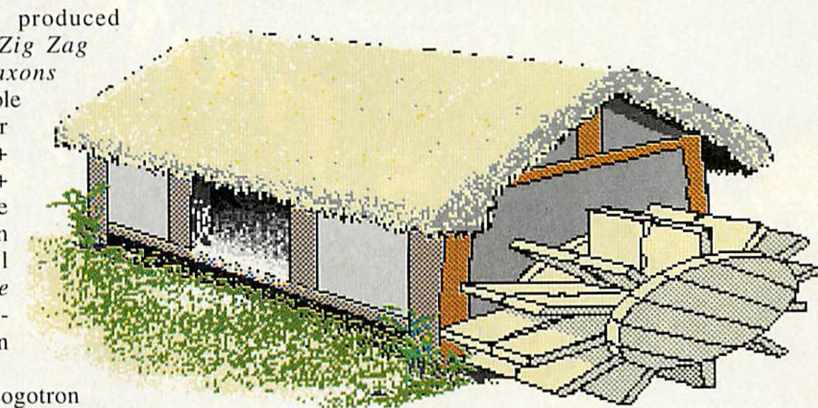
BBC and Longman Logotron introduce Zig Zag

THIS Autumn Longman Logotron and the BBC will introduce a new series of History Key Stage 2 software titles complementing the BBC Zig Zag television broadcasts.

The first release is called *The Anglo Saxons*, enabling eight to ten-year olds to wander through the environment of the time and bring things to life authentically in an Anglo Saxon village.

The software pack includes a National Curriculum teacher's guide and an activity book which can be photocopied to produced worksheets. *Zig Zag The Anglo Saxons* will be available from October priced £29 + VAT or £87 + VAT for a site licence. Next in the series will be *Zig Zag The Romans*, expected out in early 1995.

Longman Logotron can be contacted on (0223) 425558 or Fax (0223) 425349.



An Anglo Saxon Mill, courtesy of Longman Logotron

Online Media

...continued from page 9

from companies like Oracle will become the standard, so, Acorn simply needs to develop client-end drivers to interface with the interactive multimedia server API or application program-ming interface.

Bird explained: 'The Oracle Media Objects environment allows software developers to develop interactive multimedia applications without limiting the set-top devices they can work with.'

Jerry Held, senior vice president of Interactive Multimedia Products at Oracle Corporation commented: 'We feel Online Media has a technology and approach that is complementary to Oracle's, and the two companies together will enable a more rapid delivery of interactive multimedia applications to consumers.'

Another crucial advantage Acorn has is its experience with and access to highly integrated and very cheap Arm processor technology. When you consider Acorn can produce sub-£400 Risc computers in relatively small production numbers, the cost of a much simpler digital set-top box being produced in much higher numbers starts to look very attractive.

'Acorn's proven ability in delivering low-cost, Risc-based systems and our experience in multimedia equip us ideally for the move into the burgeoning information superhighway marketplace,' said Acorn's managing director Sam Wauchope.

He added: 'I am very confident that the launch of Online Media will be a significant step towards us becoming a key player in this emerging market.'

Malcolm Bird thinks Acorn has an early lead in the developing market. 'The launch of Online Media and its technologies is a major contribution to the European effort in this area.

'The different installed infrastructure and regulatory controls across Europe allow us to gain experience across a range of technologies and develop an early lead,' explained Bird. Certainly, if the feedback this reporter gained from BNR/Northern Telecom engineers at the Online Media launch is anything to go by, Acorn looks well positioned for success with Online Media.

The guys from Northern Telecom had nothing but praise for the technology and Acorn's presentation. Northern Telecom is one of the largest players in the cable TV and interactive multimedia fields.

Live trials of up to 100 or more Online Media digital set-top boxes in Cambridge, in conjunction with Cambridge Cable, will start before the year is out, according to Malcolm Bird, and he hinted that there could be some further partnerships and trial programmes to be announced in the near future.

Squirrel 2 – the relational database



We believe this to be the finest database available for the RISC OS platform, and a match for many more expensive products on the PC and MAC.

Squirrel offers unprecedented ease of use, yet has awesome power. Tables can be created in minutes by novice users, whilst those experienced in its use never cease to be amazed by its depth of functionality.

Squirrel Single User	*£ 139.00*
Squirrel Multi User	*£ 556.00*
Squirrel 'C' Developers Toolkit	*£ 99.00*

Netgain – high speed application loader

Netgain is a real breakthrough in Econet technology which reduces the frustration of slow load times for applications.

With Netgain, applications installed on the network server are available to any Netgain configured client, who can load them at hard disk speed simply by clicking on the icon. Compatible with Level 4 fileserver software.

NETGAIN NETGAIN

Server Pack, including 10 user packs£ 200.00

Additional 10 User Packs £ 100.00

Armlock – hard disk security system

Armlock is a software only utility preventing unauthorised access to CMOS RAM or to designated files/directories on the hard disk of any RISC OS 3 computer. Unlike other security systems, Armlock does not require the hard disk to be partitioned into read-only and writeable areas.

ARMLOCK

Armlock Single User	*£ 35.00*
Armlock Ten User Licence	*£ 139.00*

leading products from Digital Services

Waiter – The RISC OS menu system

Waiter is a complete menu-building system for risc os. Powerful, easy to use, hierarchical menus may be created, complete with icons and descriptions, enabling novice users to locate, run and move between programs. Passwords can be attached to applications or entire menus. The system is ideally suited for use with hard disks or networks.

Waiter Single User £ 35.00

Waiter Site/Network Licence £ 139.00

Netgain for Ethernet – high speed application loader

NETGAIN FOR ETHERNET NETGAIN FOR ETHERNET

Netgain for Ethernet provides the fastest transfer rates of any network currently available on the RISC OS platform. Typical transfer rate from a standard Ethernet system is approximately 200K/sec but Netgain achieves up to 900K/sec. In addition to this transport throughput increase, intelligent caching and a general reduction in bottlenecks result in staggering reductions in load times for typical applications.

No more then 64k of RAM is taken from any workstation.

Server Pack, including 10 user packs £ 200.00

Additional 10 User Packs £ 100.00

Ethernet Cards – for high speed networking

E

Digital Services ethernet cards have been designed to provide maximum possible bandwidth on Acorn networks. Both thin ethernet (10 Base 2) and twisted pair (10 Base T) cards are available. The cards incorporate two unique features: the computer's CMOS RAM may be password protected, thus preventing unauthorised personnel from tampering with the configuration, and secondly the Netgain for Ethernet client software is included in the ROM.

Mini expansion card for A3000/3020/4000 £139.00

16 bit expansion card for A300/400/540/5000 £139.00

Digistore

Digistore – tape streamer

Digistore is fast, flexible and TOTALLY reliable in operation. Friendly RISC OS software allows selective backup and restore. Backup commands may be included in your own programs.

Digistore can be connected to any RISC OS computer via a SCSI interface, and uses industry standard 1/4" tape cartridges.

250Mb £799.00 *525Mb £899.00* *1Gb £999.00*

All prices shown are ex-VAT, which is chargeable at 17.5% on all items for UK residents. No VAT is due on foreign orders.

An extra charge will be made for postage and packing on all items ordered from Digital Services.



9 Wayte Street, Cosham, Portsmouth
Hampshire PO6 3BS Tel 0705 210600



Oak news

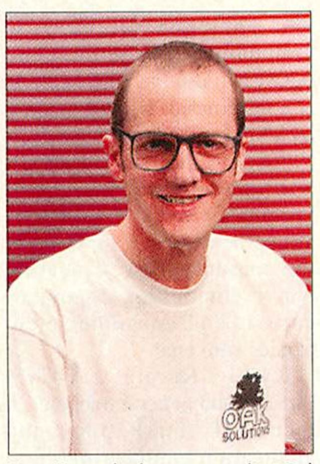
FORMER special-needs coordinator at Acorn Computers, Vorn Hancock, has joined Oak Solutions as software support manager.

While he will spend much of his time handling telephone support calls, one of Hancock's new tasks will be to improve customer communications with options like electronic mail. Another of his tasks is to act as spokesman for new products, like *OakPCB II*.

Hancock explains: 'The changes we have made are as a direct result of user feedback. We've also taken the opportunity to incorporate all the improvements which Acorn has made to the operating system since the launch of Risc OS 3.'

New *OakPCB II* features include toolbox and layer control boxes, which now appear as pane windows so they maintain their positions relative to the main drawing window when the window is moved. Both accessory windows can be toggled between horizontal and vertical orientations.

'Another change we've made as a direct result of customer comment is simplifying the process of attaching and releasing tracks to pads,' adds Hancock. *PCBDrill* now includes Roland CAMM2 and CAMM 3 automatic drilling capability. *OakPCB II* is priced £70 + VAT and upgrades are priced £35 + VAT.



Vorn Hancock, the new recruit at Oak

Other news from Oak Solutions: a new printing utility called *Repro* has been produced. *Repro* enables the user to manipulate the exact translation of colours from screen to paper, giving control over screen size, screen angles, gamma correction, grey balance and black removal.

Repro can also be used to produce colour separations and special effects. *Repro* was developed in association with Acorn and is priced £50 + VAT. Oak Solutions is on (0532) 326992, fax (0532) 326993.

Less theft

UK businesses and schools are estimated to lose as much as £100 million worth of computer equipment to thieves, often in broad daylight, according to Bristol-based Portcullis Technology.

Portcullis has a solution, called Wobbler. It is a British-made 110 decibel alarm which can be attached to computers, printers or any other peripherals.

Wobbler alarms are triggered when a piece of equipment is unplugged and moved. Wobblers have a unique advantage too, as Portcullis technology's Marjorie Conner explained.

'Where a siren or security alert device is attached to a building, a burglar can often be in, out and away with equipment before help can arrive. With Wobbler, the equipment is alarmed, so if he tries to take it, so is the thief.'

Conner added: 'A Wobbler also tackles the cases where equipment is stolen in broad daylight.'

The alarm mechanism is set using a key. Wobbler prices start from £65 and a single master-key to control several Wobblers can be specified.

For more information contact Portcullis Technology on (0272) 312500 or fax (0272) 312591.

Bubble jet

MANNESMAN Tally is to launch a range of new bubble ink-jet printers this summer, starting with the T7040 model which has a 600x300 dots per inch maximum resolution and facility for swapping the standard monochrome print head for a colour unit.

The T7040 is designed with a 120 sheet paper feeder and there is an option of a second 120 sheet paper bin. Draft print speed is 400 characters per second (cps), or 160 cps in letter-quality mode.

If it can be supported with Risc OS printer drivers, the T7040 looks good value at a price of £299 + VAT.

Mannesmann Tally can be contacted on (0734) 788711

Parish mags win award

ENTRIES prepared using Acorn computers and Computer Concepts' *Impression* desktop publishing software swept the board at this year's National Parish Magazine Competition, sponsored by the Ecclesiastical Insurance Group.

The winners, *Newslink* from St. Faith's church in Crosby and *StreetWise* from St. Matthew's church in Cambridge both earned £500 prizes, presented by the Archbishop of Canterbury at a special ceremony during a recent Grand Synod in York.

The Rev. Philip Foster, who helps produce *StreetWise*, commented: 'We have used Acorn equipment from the second edition of the magazine and have never looked back.

'We now produce the entire magazine in-house and present our printers (Piggot's of Cambridge) with positive film so they can go direct to plate.

'What further encouraged us was the discovery that our co-winners were also Acorn users – a real double first for Acorn and Computer Concepts' *Impression* DTP software.'

Published quarterly, *StreetWise* has been published for almost four years and 1700 copies are distributed to every household free of charge in the St. Matthew's parish.

Rev. Philip Foster can be contacted on (0223) 63545.

Special needs exhibition

The 8th SEMERC National Micros for Special Needs Exhibition takes place at the Queen Elizabeth Hall, Oldham, on October 6 and 7. Acorn equipment is expected to feature prominently, as usual.

A new SEMERC exhibition, called the IT Co-ordinator Show, aimed at IT resourcing for primary schools, is being held on October 5, at the Queen Elizabeth Hall in Oldham.

The show offers a seminar programme and is being sponsored by Cumana. Free tickets are available for both events from SEMERC – contact them on 061-627 4469 or fax 061-627 2381.

Topologika on the move

Topologika Software has moved. Its new address is Islington Wharf, Church Hill, Penryn, Falmouth, Cornwall TR10 8AT. The combined phone/fax number is (0326) 377771.

In response to popular demand, Topologika has released a variation on its successful *Freddy Teddy's Playground* program, with the bear substituted by 'real' people characters Izzy and Lizzy. The new program is simply called *The Playground*.

Keep an eye on next month's issue for reviews of two Topologika products, *Navigator* and *Music Box*.

IT exhibition needs more exhibitors

Resource 94, a North of England Information Technology exhibition and conference for key personnel from Primary, Secondary and Further Education establishments, takes place at Doncaster Race Course on Friday 25 November, from 9am to 5pm.

Exhibitors are still being sought. For more information, contact MetaPhor Conferences, phone/fax (0532) 550752.



PTW in Australia

PTW Software has established an Australia and New Zealand distribution deal with KidsRAM of New South Wales. Antipodean customers will now be able to save money on ordering PTW products locally.

KernPlus, *Chemistry*, *KleinFS* and *Equate* are all priced Aus$45 inclusive and the Technical Clip-Art library is priced Aus$24. KidsRAM can be contacted by phone or fax in Australia on (047) 54 4344.

Acorn promotions

Acorn has taken on one of the UK's top ten promotional marketing agencies, COAXIS, to support its consumer division's summer special offers.

COAXIS is managing a Rumbelows promotion which offers a £100 holiday discount with an Acorn computer purchase.

Keytop stickers

Edu-Key Educational Computer Supplies has produced a range of keytop stickers available as a pack for £6.75. The stickers make key legends clearer for youngsters to read. Mention *Acorn User* and you will be eligible for a 20% discount. Edu-Key is on (0244) 332 663.

CD-Rom drive ships

Cumana has now officially launched its 300iA CD-Rom drive for the Risc PC.

The unique drive is an internal unit which is interfaced as a second IDE drive alongside the standard IDE hard disc drive. Therefore, a podule expansion slot is not required.

A built in audio mixer enables CD and computer sound to be played simultaneously through the same speakers, through external speakers give better quality sound.

The £249 + VAT 300iA comes with £130 worth of software vouchers, Cumana's Photo CD sampler album and Clares' *ProArtisan2CD*.

Cumana can be contacted on (0483) 503121 or fax (0483) 451371.

More success for Arm Ltd

ARM LTD has licensed Arm7 processor core technology to AKM, a Japanese semiconductor company specialising in signal processing chips and digital/analogue converters for the communications industry, including products such as fax machines and cellular communications devices.

Arm Ltd has also announced that SPYRUS, a Californian electronic security company, has incorporated the Arm610 into a credit-card sized electronic key called a LYNKS Privacy Card.

AKM is the semiconductor subsidiary of Asahi Chemical Industry Company Limited, a diversified $12 billion conglomerate. AKM specialises in the art of combining digital and analogue circuitry in communications equipment. AKM will use the Arm7 core in its advanced mixed signal technology products.

As Arm Ltd puts it, AKM's ability to supply integrated communications solutions strengthens Arm's drive to be the consumer Risc standard – where computing, communications and consumer electronics converge.

Kyoji Kurata, AKM's director and general manager of technical marketing and application engineering commented: 'AKM's success is built on our ability to integrate the best technologies available to a customer solution. This partnership with Arm allows us to integrate the best processor technology.' The SPYRUS LYNKS Privacy card is a dedicated DES or RC4 encryption/decryption device used for protecting access to software, databases and messaging services.

Encrypted data can be distributed freely as it can only be decoded by the user of a LYNKS card. 128K bytes of static Ram, a real time clock and 512K of non-volatile flash memory are built into the card.

The Arm610 was chosen because the CPU is fast enough to run the complex security programs contained within the PCMCIA card, yet managing to stay within tight power consumption specification limits – just one watt for the whole card.

Rumwell Manor computer courses

HORIZON IT Education Services is offering a series of weekend training courses on popular Acorn software packages at Rumwell Manor, a luxurious country house hotel near Taunton, Somerset.

Endorsed by Computer Concepts and Apricote Studios, the courses cover *Impression Style* and *Publisher*, *ArtWorks* and the *Prophet* accounting package. Computer equipment will be available to attendees outside class times for extra practice, ensuring trainees really learn the packages.

Courses are priced £250 inc VAT per person, which covers the tuition, board and lodging, and partners not attending the classes can be included for £85.

The schedule is as follows: Acorns for Beginners: 23-25 Sept, 11-13 Nov; *Impression* for Beginners: 30 Sept - 2 Oct, 18-20 Nov; Advanced *Impression* DTP: 7-9 Oct, 25-27 Nov; *ArtWorks* Technique: 4-6 Nov, 9-11 Dec; Acorn's Business Machine: 14-16 Oct, 2-4 Dec.

For more details contact Horizon IT Education Services on (0935) 862990.

Page printing labels made easy

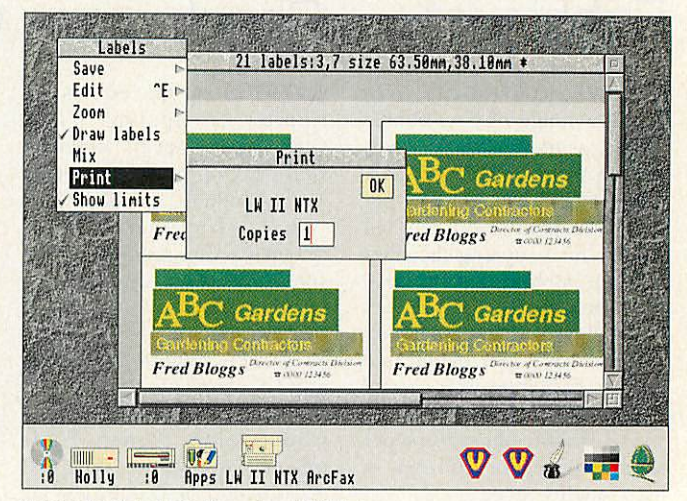
LE COMPUTER, an Acorn authorised education dealer and software developer, has produced *Ultilabel*, a Risc OS label-making application designed primarily with laser or ink-jet page-printers in mind.

Ultilabel is compatible with standardised A4 label pages produced by Avery, for example, enabling owners of laser printers to generate sheets of labels easily.

Continuous form stationery can also be used with *Ultilabel* if required.

Le Computer says *Ultilabel* is more than just a label-making program and can be used to make business cards, staff badges, etc.

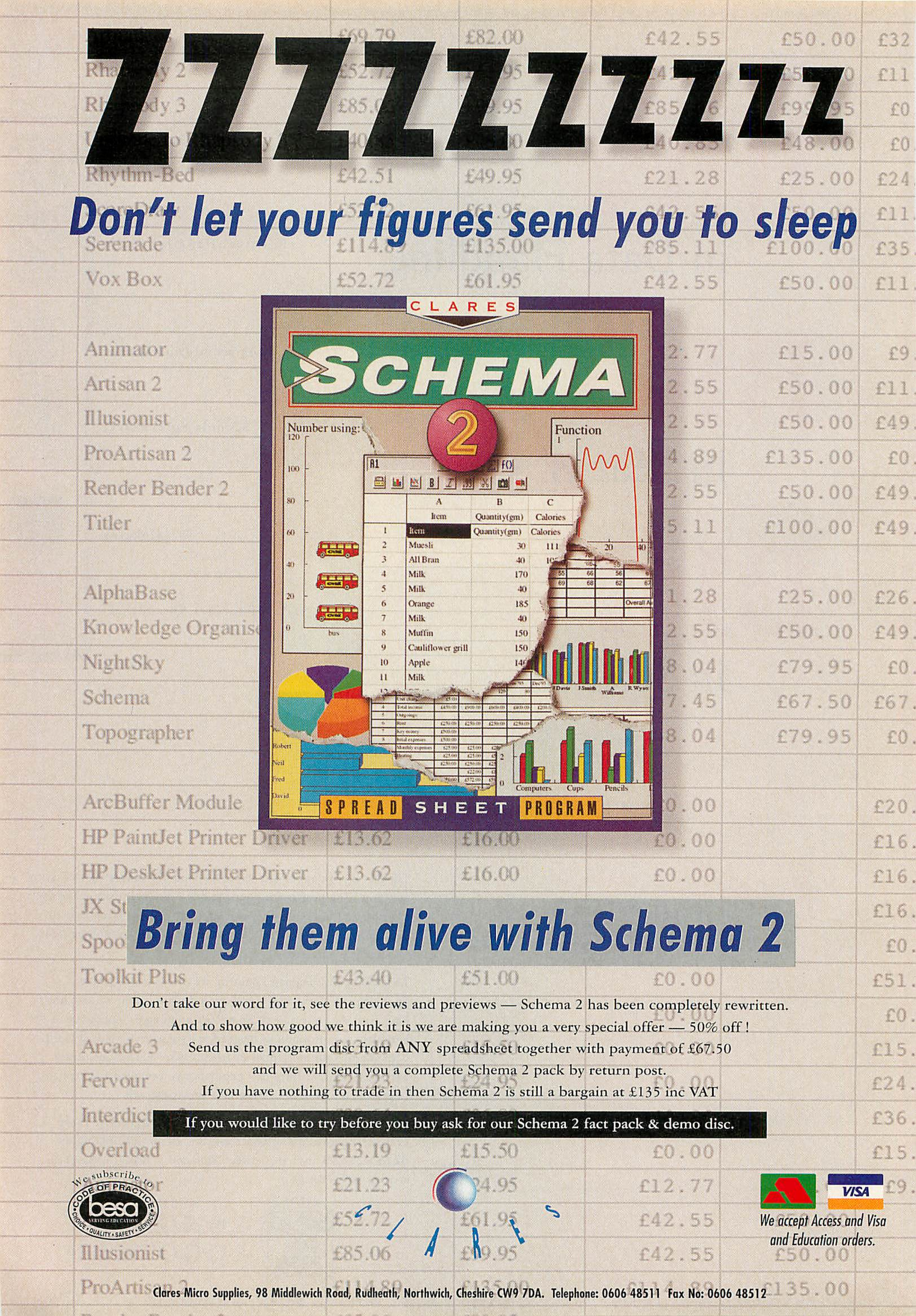
The program is designed to accept CSV data files and *Draw* images.



Automated label printing using *Ultilabel*

The price is £49.95 + VAT including P&P for the UK and Eire.

For more information, contact Le Computer on (0245) 362225 or fax (0245) 362048.


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Composition reaches Beta-test range

SINCE the impressive demonstrations at the *Acorn User* Show last spring, the graphics world has not seen head nor tail of the first object-orientated bitmap graphics package for the Acorn, *Composition*.

The current release is for test use only, though it marks a significant progression towards a final version, with many of the promised features now implemented.

It is always difficult to comment on an application's performance this early on but the basic idea of the program can be described.

Composition retains individual image information as separate objects, and effects or manipulations applied to an image are always generated from the original.

You can, therefore, change the position of one sprite which is bleeding into another underneath it without disturbing the integrity of either bitmaps.

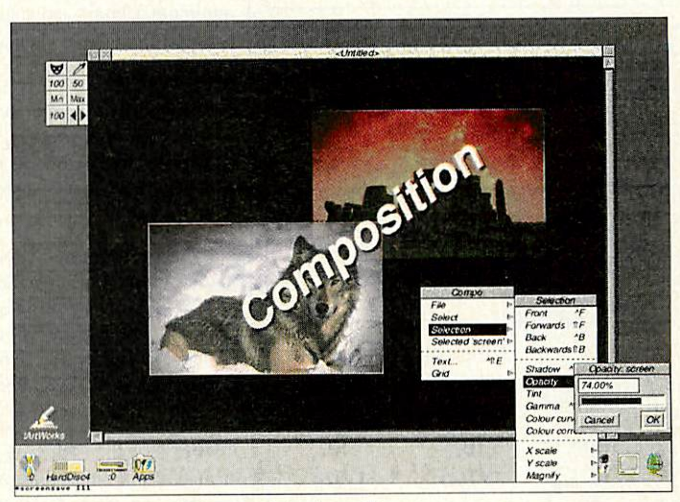
The program already features 24-bit colour support with 8-bit masking, a number of colour correction and image manipulation options and a few special effects.

Virtual memory management is not yet included, so unless you have a serious amount of Ram it's presently impossible to create large, high resolution compositions which the program is so well equipped to produce.

The speed is very impressive, especially in comparison to the Mac equivalents like *Collage* which cannot generate the full resolution composition on the fly but instead uses thumbnails for working with and only at the end renders the full resolution image. The package does not yet include enough object shape manipulation facilities like skewing and rotating requiring such work to be performed in other packages.

Composition has massive potential but to ensure that the program reaches the heights which it should and for it to compare with its Mac counterparts, such additions are vitally important.

Clares can be contacted on (0606) 48511.

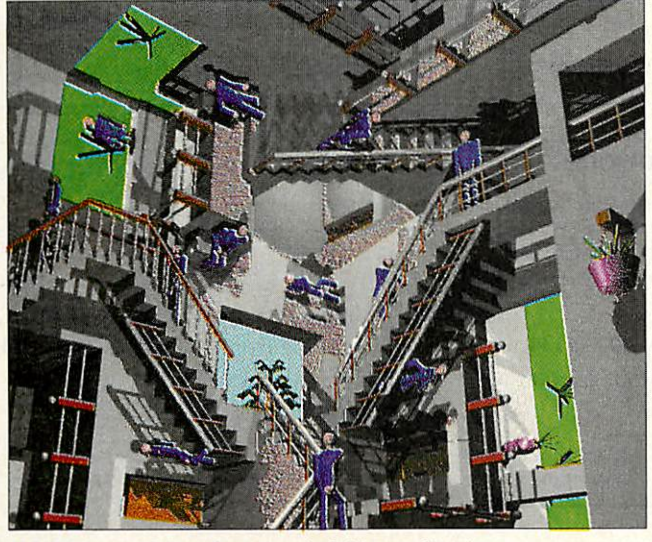


Overlay images with *Composition* from Clares

Clipart news

CELTIC *Clipart* and *ClickArt* are two collections which deserve much more than this mention. Look out for reviews in Geoff Preston's education pages very soon. Matt Black, responsible for *Click* can be contacted on (0733) 315439 and Glyn Howells – *Celtic* – is on (0239) 851484.

Picture of the month



M C Escher would have been proud of this month's picture

THIS month's winner of the £20 jackpot is William Pragnell from Kent. It is the culmination of six months toil using the PD package *RayShade*. The image wins as much on the artist's effort as it does on the visual excellence of the image, Relativity, based on the etching by Escher.

Pre-release problems

IN recent months, we have looked at many packages, graphically orientated and otherwise, which have been either very early versions or pre-release code.

It must be stressed that the pre-release form of any product is no absolute indication of the final release.

Programs can change and improve enormously from pre-release to release versions and indeed from one full release to the next.

The reason for explaining this is due to the extremely rapid developments we are witnessing in graphics just now. The area in general is moving at a terrific pace, as are all the companies working on their individual products.

To take Spacetech's *Photodesk* as an example, this has resulted in as many as three new versions of a single program arriving on my desk in one week, each with significant improvements.

Version 1.14 includes greatly improved airbrush control and text and brush rendering. Future developments include complete virtual memory and antialiasing rewrites and the implementation of very advanced 'true to life' painting tools. The first in a series of additional modules for use with *DA's Picture* is nearing completion. The filters and textures module leads the way for the scanning, printing, vector path and text modules which are among the many to follow.

This creates a dilemma as we have to review the products at some point, but the review you read is going to be out of date. Where should we draw the line?

In the end, the proof of the pudding is always in the eating, so my advice is to try out the software before you commit yourself.

You can contact the Graphics Page by writing to Jack Kreindler, at The Graphics Page, *Acorn User*, Europress Publications, Europa House, Adlington Park, Macclesfield SK10 4NP.

In addition, Pics of the month, suggestions for software improvements and general comments can be sent to jack@acornusr.demon.co.uk.



Welsh Rarebbs

V-MAX is a PC-run BBS described by its Sysop Adam Aurex as a multi-format BBS. Located in Clwyd, North Wales, V-MAX caters for almost all popular Mac, Amiga, Atari and PC machines as well as a growing Acorn section covering Acorn 32-bit and 8-bit machines.

Adam says that there's no other Acorn interest BBS in his area and wants to increase support for the Archimedes and Risc PC with Shareware and PD files.

The BBS is online from 9.30pm to 8.30am using *RemoteAccess* software running on a PC386 of his own design. Full use has been made of ANSI graphics screens giving the system a professional look.

V-MAX offers sparkling high-speed connects to those with V.FC modems, and I had no trouble getting a 28,800bps V.FC connection between the Intertex IX33 28,800 V.FC modem I was testing and the Hayes Optima 288 V.Fast Class modem that serves V-MAX.

The Archimedes and BBC file areas contain a good number of useful *Spark*-ed downloads, and Adam hopes that as well as his regular additions, new callers will swell these areas with uploads. An A3000 is used for the Acorn file service. Message areas include the Archimedes Echo for those who want to keep in touch with other Acorn users round the world.

V-MAX is on FidoNet as 2:442/74, and is only a local call from the Clwyd and Merseyside area. The number to call is (0352) 712937 from 9.30pm to 8.30am at all speeds to V.FC.



A multi-format welcome from V-MAX

Acorn on the net

READERS of the Usenet comp.sys.acorn newsgroup family have access to regularly-posted information lists useful to Acorn users.

The first is the 'FAQ list', which stands for Frequently Asked Questions, and is posted by Philip Banks from New Zealand.

The FAQ list contains almost every imaginable question with a comprehensive answer that both new and experienced users might ask about Acorn machines, software, usage and specifications. FAQ entries range from 'Serial cable configuration' through 'How do I enable solid drags in Risc OS 3' to 'What is ADFS-buffers?'

Gerben Vos makes a fortnightly posting from Amsterdam of his list of ftp sites round the world that contain files related in any way to Acorn computers, i.e. the Atom, BBC, Electron, Archimedes, R-series, Pocket Book, Risc PC and so on.

The list gives the name of every interesting archive known about, as well as the type of files it contains, its numeric address in the case of Internet ftp servers and Janet pads, and the e-mail address of the maintainer, if known.

Another New Zealander, Paul Lebeau' has compiled a list of e-mail contact addresses for various companies and individuals who offer Acorn related products and services.

The 'Acorn on Internet' list is continuously updated and posted monthly. Companies listed include Aleph One, Acorn, Computer Concepts, Colton and Uniqueway while indi-viduals and organisations include such names as Eivind Hagen (of the 'ArcEmpire' demo group), *Acorn User* editor Mark Moxon, FAQ compiler Philip Banks and ftp lister Gerben Vos.

By special permission, the latest versions of the ftp list from Gerben Vos, and Paul Lebeau's 'Acorn On Internet' list can be found on this month's cover disc.

Changing the rings

RECENTLY introduced in the US by the FCC is the personal phone numbering scheme where a subscriber takes on a new 500 prefix number that allows calls to reach him or her anywhere in the world.

The main reason for the Oftel PhONEday event in the UK on 16 April 1995 is to allow many more number networks to exist in the UK, allowing for personal numbering and other special services to flourish. Originally planned to use the 700 prefix, they then changed their minds and chose 500, but perhaps Oftel didn't notice.

Personal numbering is available in the UK from two companies. Mercury One Call redirects calls worldwide for £40-£90 per month with individual call charges, while Flextel redirects within the UK for only £2 a month with a £120 initial connection charge, all plus VAT.

PM Dawn

Acorn Computers recently announced an experimental direct marketing input for Internet users on comp.sys.acorn in the form of a mailbox to the Product Marketing department addressed as PM@acorn.co.uk and which is read constantly.

The plethora of e-mail and Bulletin Board comments that poured in over the first few days of its operation have resulted in the extension of the feedback facility, and Acorn seems delighted with the positive responses it has received. It just goes to show that e-mail is increasingly important in the Acorn market.

One of the first results of the experiment will be the creation of an Acorn credit card scheme.

Pangill by the Sea

Pangill BBS, Peter Gillham's new system in Scarborough, brings to North Yorkshire support for Acorn 32-bit computers.

Running RiscBBS on an Arm3-boosted A3000 and Sportster modem, the BBS is also FidoNet node 2:256/701. Pangill BBS is online daily from 21:00 to 07:00 on (0723) 581460 at all speeds to V32bis.

Clares join Demon

Another well-known Acorn software company, Clares Micro Supplies, has joined Demon Internet Systems to give customers e-mail access to information and technical support for their products.

For information, e-mail sales @clares. demon.co.uk and include postal address for return of catalogues or demo discs.

For technical support, e-mail djackson@clares. demon.co.uk with as much background information as possible if help is required.

You can contact the Comms page by writing to: David Dade, Acorn User, Europress Publications Ltd.,Europa House, Adlington Park, Macclesfield, SK10 4NP or by e-mail to: DaviD@arcade. demon.co.uk, or by MODEM on Arcade BBS, User #2 - 081-654 2212 or 081-655 4412.

Showroom open Mon-Sat 10-18.00 hrs (All prices exclude VAT)

TopicArt

Single disc clipart containing approx. 50 high quality draw format clip art images, each on a single subject. Comes with mono reference sheet. 12 subjects are available now. Please specify when ordering. Site licences are £16+VAT per disc, please ring for further details.



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Special editions of TopicArt consisting of a minimum of 4 discs full of clipart





Training £50+VAT

RiscOS Computing For Beginners





This friendly informal one day course, held at our premises, is designed to provide you with the essential skills to enable you to work wonders with your Acorn computer. Topics covered include optimising your computer set up, running/using applications, understanding computer jargon, using printers, managing files, troubleshooting, expanding your computer, plus many more. Ring for details of special introductory offers and dates.

CD-ROM

Excellent value Sony Caddy Loading SCSI CD-ROM drive complete with external case, PSU, caddy and CDFS driver (CDFS2.21 required). Double speed (300kb/s), 295ms access time and Photo CD compatible. Suitable for all RiscOS computers. Can also be fitted internally on the RiscPC. When fitted in a RiscPC maximum expansion facilities are retained unlike other IDE CD-ROM options!

without SCSI card	£175
with SCSI card	£299

The above price is for a Morley uncached SCSI card.

Hard Discs

A5000/RiscPC 2nd Internal Drive

210Mb IDE 14ms Cache (~1Mb/s)	£159
340Mb IDE 14ms Cache (~1.2Mb/s)	£239
420Mb IDE 14ms Cache (~1.5Mb/s)	£279
540Mb IDE 12ms Cache (~1.5Mb/s)	£399

The above include all cables, screws and instructions. All the above drives are Connor as used in the RiscPC

A300/A400 Series Internal (IDE)

210Mb 14ms Cache (~1Mb/s)	£239
340Mb 14ms Cache (~1.2Mb/s)	£309
420Mb 14ms Cache (~1.5Mb/s)	£359
540Mb 12ms Cache (~1.5Mb/s)	£479

The above include all cables, screws and instructions. Add £79 for ext case and/or £15 for A3000 podule case. All the above drives are Connor as used in the RiscPC

Syquest Removalbe Hard Discs

(Include one cartridge, exclude SCSI card)

IDE 105Mb Internal for A5000/RiscPC	£259
SCSI 105Mb External for all Machines	£349
105Mb Syquest Cartridges	£55

QuickTile v1.02 £25+VAT



Up until now it has only been possible to print posters from Draw & Sprite files. Now with QuickTile you can create posters from ANY RISCOS application, including Impression. Simply enter the size of poster required & select PRINT from the application! QuickTile does the rest, printing each tile with crop marks and tile references. RiscPC compatible.

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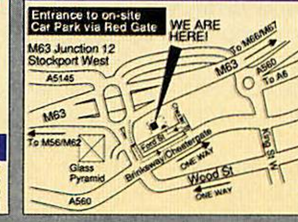
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Terms

EC residents add 17.5% VAT to all prices except books. Carriage free in UK (excluding remote areas) (except books), elsewhere at cost. Orders MUST be accompanied by a phone number. Prices and spec's subject to change without notification. Goods subject to availability. Goods not offered on trial basis. Restocking fee on non-faulty returns. Official orders welcome from educational establishents, chq with order under £30.

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SEP 94



Cheap colour printing at last?

AFFORDABLE colour printing is seen as the next step forward in computer output. As soon as we've managed to produce all manner of black and white documents we start thinking that a splash of colour would make all the difference. Canon has pioneered low cost good quality output with its colour BubbleJet BJ-800 and 600 series, with Hewlett Packards' Deskjet 500/560C hot on their heels. Each offers comparable output and although many professional users pooh-pooh the output as having poor colour saturation and reproduction quality, the output offered is more than acceptable.

The Star SJ-144 A4 Colour Thermal Wax printer was recently reduced in price, and can be found for less than £350. It offers excellent output at an affordable price even if it's more expensive to run than its counterparts.



The Epson Stylus Color can print but can't spell

The real limiting factor so far has been a resolution of around 300-360dpi, but now Epson has joined the fray and launched a new A4 colour inkjet printer. The Stylus Color offers up to 720x720 dpi output and uses error-diffused dithering to give 24-bit colour reproduction.

The printer requires special coated paper for its high quality output although 360dpi is achievable on normal cut sheet paper.

The printer is aimed squarely at those looking for a low cost solution rather than those using 'high end' graphics applications for illustrations and photographic reproduction. Its RRP is £639 although most if not all printers can be had at considerable discounts from a host of retailers. Like both the Canon and Star printer banding is almost non-existent thanks to some clever tricks inside the box and output to film and envelopes is available.

As always, half a dozen onboard fonts are included, and though the claim of photo-quality output is a little over the top the output is noticeably better than its rivals. Thus the Epson can be expected to compete against the likes of the Canon BJC-600. A feature-packed interface is available for Windows users (of course) but the rest of us will have to wait until someone starts supporting it on our, more humble, computers.

Epson can be contacted on (0442) 61144.

Black and white in colour

FOR those of us still restricted to black and white output all is not lost. A number of companies are offering a selection of different papers to enhance your output.

World of Paper offers a range of papers including textured, fluorescent, marbled and tinted suitable for lasers and ink jets. It's an excellent way of making letters stand out amongst plain white laser prints. A sampler is on offer for £4.95 but most graphic arts shops will have similar papers for sale, although you may have to buy 100 sheets at a time. World of Paper is on (0787) 880627.

Sliding colours about

PRONTAPRINT is offering a slide/OHP production service. It will produce a slide from a rough sketch or written instructions for between £10 and £15 + VAT. The slides/OHPs are ideal for presentations and if you can export your own PC or Mac compatible graphics files you can design them yourself and save yourself money. Prontaprint is also offering the first public Disc Fax service. It's similar to faxing pictures but you 'fax' a disc from your local shop to another shop where a copy of the disc can be picked up. It's faster than posting although once again it is limited to PC and Mac discs.

Impression update

THE OPI version of *Publisher* is to be released towards the end of August and will feature support for spot colour and named colour separations as well as industry standard EPS and DCS output.

In fact, because the new version contains more than just OPI (Open Press Interface) capability, Computer Concepts will probably not be calling it the *OPI Supplement*, though the actual name to be used *-had not been finalised at the time of going to press.

Standardisation appears to be the name of the game since CC also plans to release a Text Loaders pack, similar to its current Graphics Loaders pack.

It will offer improved RTF loading, and more importantly RTF output. You will then be able to export your documents to other machines, a facility long under-supported in desktop publishing packages on the Arc. There will also be a new *WordPerfect* loader updated for *Word Perfect 5.1*.

Other importers are under consideration but are unlikely to appear this year. Meanwhile the release version of *Publisher* (4.01) will be updated with a couple of very minor bug fixes at about the same time. The release version turned out to be 'remarkably stable' so it was at least worth the wait.

You can contact the DTP page by writing to: Steve Powell, Acorn User, Europress Publications Ltd, Europa House, Adlington Park, Macclesfield, SK10 4NP.

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Learning Curve System

The Learning Curve System can be purchased with the A3010, A4000 or A5000 range of computers. It consists of an audio instruction tape and software including,- Acorn Advance and the PC emulator, £ 42

Home Office System

The Home Office System can be purchased with the A4000 or A5000. It consists of an audio instruction tape and software including,- EasiWriter, Datapower, Pipedream 4 and the PC Emulator £ 85

A4 Portable Computer

A4 2M FD System	Includes 2Mb Ram	**£1399**
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----------Studio24---------

A brand new 24 bit Painting package to cover the whole of Acorns Archimedes and Risc PC range. This package is just about as close as you can get to real painting without getting your hands dirty!

As well as providing all the necessary tools for painting applications, the package is perfect for retouching existing sprites and Photo CD images. Features include:- Definable brushes and textures, Opacity control, Brush movement smoothing, Clone brush, Smudge brush, Effects brush, Processing and definable filters, Linear and Radial fills, Cut & Paste, Undo/Redo, Stencil screen, Warping, Multiple canvasses, Text and many other powerful features. As with all our products software updates and improvements will be free. See our new 1/2 page ad.

Price £125.00 + vat **Demo disc £5.00 + vat (Refundable)**

Pineapple PAL Coder

The Pineapple PAL Coder is a stand alone unit which provides a coded signal which can be recorded onto VHS or fed to any monitor or TV set with a coded input. The unit is inserted in the lead to the RGB monitor and provides an RGB output for the monitor together with a PAL coded output on a BNC socket. A second version also provides an output in S-VHS format as well as composite. Now available for Multiscan as well as standard monitors. Upgrade available for existing owners.

Standard Version £69.00 **S-VHS £79.00**

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Funcy2 graph drawing app

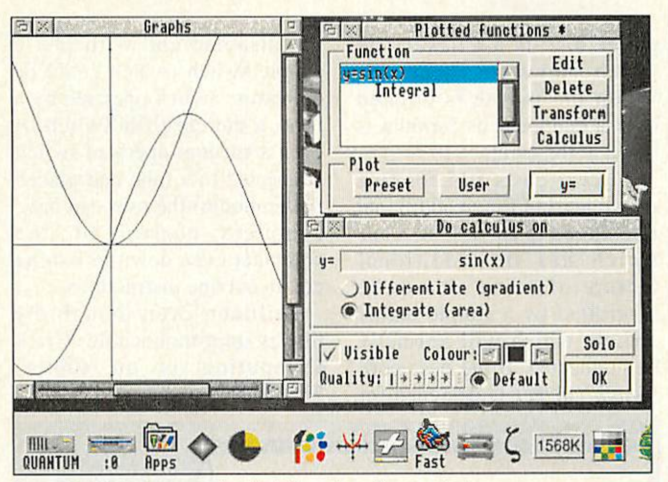
DESPITE Acorn's location at the fore of educational computing, the range of PD aimed specifically at the education user has been surprisingly limited.

The public domain offers a massive range of quality software which is available for next to nothing and has therefore proved to be a great boon for our cash-strapped schools, where the effort has been put in to find suitable programs to use.

However, in my experience the PD used in schools is of the utility or enhancer genres and not specific educational tools.

Fortunately, at least one coder has spotted this gap and is proceeding to attempt to fill it with his new graph drawing application *Funcy2*.

Richard Blythe's application is a fully windows-based graph plotting program which is well designed and very easy to use. Clicking on the program's icon reveals the main view window and a function entry box listing the functions currently plotted.



Funcy2, a PD program aimed at the education market

New graphs can be added by simply typing in an x,y equation or selecting from a list of preset functions. Extra windows give control over zooming, centering and axes scales.

As a raw graph plotting tool, *Funcy2* is very useful and easily out-performs the array of graphic calculators on the market. However, its the transformation and calculus features that allow the plotted functions to be manipulated which really make this a useful classroom tool. Output from *Funcy2* is limited to a straight screen grab of the view window and I would have liked to have seen a save box for *Draw* file format and possibly a print facility.

On the whole though, this is a great application which Richard has rightfully made shareware.

There is no fixed registration fee, so registered versions of the program can be obtained by sending a contribution to: Richard Blythe, 37 Well Way, Newquay, Cornwall TR7 3LS.

Zippo

WITH THE advent of the Risc PC and a plethora of new graphics cards, the emphasis in the PD scene has moved on to 24-bit graphic data and converting all those foreign graphics files around to a viewable form.

Zippo has taken on the Clear file as the new 24-bit standard and allows conversion from Clear to a list of different formats including AIM, BMP, Sun, Targa and V12.

Zippo is filling the gaps left by the other graphics convertors in terms of catering for the less well known file types, but I'd like to see it developed to include the full range of graphics files like GIF and JPEG.

Then you would omly need one application to convertall your graphics files.

Tools to go both ways from foreign files to Arc displayable and then back again are needed, so let's hope someone will take the plunge and go for the full blown application we need.

Zippo can be found on disc UT 161 from the Datafile.

Banner from Brian

BANNER started life as a plea in the Datafile catalogue for a program which would display a desktop start-up banner combining anti-aliased text and sprites. Brian Marsden decided to take up the challenge and has produced a handy little application which will save PD coders a lot of unnecesary hassle.

At first sight the program does not look too user friendly, as a script file is needed to instruct the base application as to which sprites and fonts to use and where.



An example of *Banner* in action, with the script file that produced it

After a bit of tinkering though, a quality result can be obtained.

Full control over all the important factors, like frame borders and the time the window should appear for, is offered.

Memory restrictions should not be a problem as *Banner* initiates as a separate desktop program and then quits when the banner disappears.

A handy program and a great way to get a non-coder's idea up and running in such a flexible way.

Banner is on disk UT 136 from the Datafile.

Trackconv version 2.46

CHRIS DAVIES has been hard at work on his *TrackConv* application, now on version 2.46. The program now supports the loading of 14 different tracker formats and is still being expanded to cover more.

The new version will be out very soon. Chris has asked me to appeal for users to send in new music formats or format info so that he can continue to update *TrackConv*. Contact Chris at: 234 Prestbury Road, Cheltenham GL52 3EY.

You can contact the PD Page by writing to: Paul Wheatley, Acorn User, Europress Publications Ltd, Europa House, Adlington Park, Macclesfield SK10 4NP, or by e-mail to: paul@acornusr.demon.co.uk



Crick Computing's switch clicker

PARDON? Fortunately this program is more readily understood by using it rather than seeing the title – it has so much potential that I can't begin to go into it all now.

Most people will be familiar with *Chars* in the Apps folder on the icon bar – and the half-a-dozen or so similar programs – which display a window containing a set of non-keyboard characters.

When one of the characters in the window is clicked on with the mouse, it will 'type' that character at the current caret position.

That's what *Clicker* does, but with one significant additional feature: you can define the display to be any size and to contain letters, words, phrases, actions (Return, Delete and so on) or even a series of actions.

It's even possible to output a different action from that shown on the display. On the cover disc is a *Clicker* file which shows ten chemicals. When the mouse is clicked over a chemical its formula is typed at the caret.

Clicker costs £35 for five machines, but for an additional £40 there is *Switch Clicker* which has the additional feature of being able to be controlled by a simple on/off switch, which will normally be connected to the user port. *Switch Clicker* is designed for the disabled and with just a simple switch (which could be a pressure switch operated by a foot, a mercury tilt switch or even a vacuum-operated switch connected to a tube and placed in the mouth) the user can have complete control of the computer even down to issuing command line instructions.

Brilliant, even though the title is unpronouncable. Crick Computing is on (0604) 713686.

Untitled at 100% *

$KClO_3 + CaCO_3$

Chemicals

Potassium Chlorate	Calcium Carbonate	Delete
Barium Chloride	Lead Nitrate	Return
Nitrogen Dioxide	Sodium Hydroxide	Sodium Sulphate
Sulphuric Acid	Silver Nitrate	Ammonium Hydroxide

Clicker being used to insert chemical formula

Schools competition

LAST YEAR'S *Acorn User* Schools' Competition was a great success even though it was restricted to the schools around Harrogate, the venue of the *Acorn User* Show.

This year we want to make it even better by opening the competition to all UK schools, and hopefully attract entries from overseas.

Each school's entry should come from existing curriculum work, and so need not necessarily require any extra work from the school, other than to complete the application form which will appear soon. This year, we're allowing a lot more time for schools to prepare their entries.

Full details of the competition and prizes will appear in the November issue and, of course, the task will in itself form a valuable educational experience and should enable students to fulfil several National Curriculum attainment targets both for IT and several other subjects.

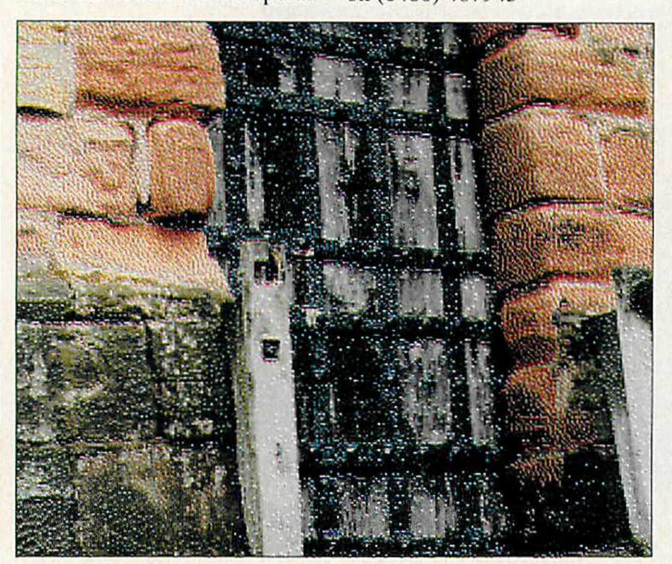
Frontier 2000 revisited

THE *Frontier 2000* CD-Rom and accompanying support materials by Cambridgeshire Software House has set the standard by which others are judged.

Colin Rouse has used *Frontier 2000* extensively in the classroom and for this reason, I asked him to review it from the teacher's viewpoint (see the April 1994 issue).

Recognising his expertise, CSH is marketing three guides written by Colin for Key Stage 2 classes.

Getting Started, *Other Frontier Options* and *Saving and Printing* are available on three discs for £15 + VAT for the set. You can contact CSH on (0480) 467945



Frontier 2000, the award-winning multimedia CD-Rom from CSH

Future education coverage

MAJOR features have proved very popular so I'm beginning to collect material which will appear in two issues later in the year. The topic for one of them will be Modern Languages.

Although I don't speak a foreign language, I've always been fascinated by the use of computers in teaching this subject, and with some colleagues from the ML faculty, have developed some classroom material, a small part of which is featured on this year's Education Disc (see the subscription pages).

The other topic will be Special Needs, an area in which Acorn appears to have a substantial lead and yet has had very little coverage. If any hardware or software developers have material they would like to be considered for inclusion in either feature, please contact me either via e-mail or the *Acorn User* office.

As always, any material will be reviewed in the classroom, and where applicable, some teaching notes, worksheets, guides and helpful hints will be placed on the cover disc.

Crystal ball

WELCOME to Roger Broadie, Acorn's Education Marketing Manager. Roger will be featuring regularly in *Acorn User*, providing us with some insight into the future. His comments will focus the mind, I'm sure.

Apologies

SINCERE apologies to Paul McKinnon of Cumana, whose name I misspelt in the network credits last month.

You can contact the Education Page by writing to Geoff Preston at Acorn User, Europress Publications, Europa House, Adlington Park, Macclesfield SK10 4NP by or e-mail to GPreston@arcade.demon.co.uk.

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DA's Picture tutorial

This month, we have a demonstration version of *DA's Picture* on the cover disc. This version is complete in every respect, except that it will only save files in a special format, which can only be read by the demonstration program.

Therefore, you can save files midway through working on them, and load them back in, but no other programs will be able to read them – for example, you will not be able to drop them into *Publisher* for printing. You can also send your pictures in to us for possible inclusion as a 'Pic of the month' on the graphics page.

The best way to get a feel for *DA's Picture* is to use it. Explaining all the features available in the program would take more than these two pages, so this tutorial offers a very brief description of what each tool does and how to use them.

The aim is to let you know what is possible, and then leave you to experiment.

Throughout this tutorial, actions which you should do will be printed in bold type.

Although *DA's Picture* will run on pre-Risc PC machines, it does require 4Mb Ram, Risc OS 3.1 and a hard disc. For best results you should run it in at least a 256 colour mode.

On the disc

In the *PicDemo* archive on this month's disc there are the following files:

- *Picture*, the demonstration version of *DA's Picture*.
- *Colours1* and *Colours2*, two TIFF format files which provide colour circles from which the full range of colours can be chosen.
- *Sample*, a JPEG file of the Golden Gate bridge which can be loaded in to the demo program and manipulated.
- *Stamps*, a directory containing files for use with the 'stamps' tool.

Copy the files from the *PicDemo* archive onto your hard disc. Double-click on the *Picture* application to run it. The *Picture* application will install on the icon bar. Load in the *Sample picture*, either by double-clicking on it or by dragging it to the *Picture* icon on the icon bar.

The panels

Most of the panels controlling which tool is used, the brush size, colour and so on are can be displayed either by choosing the relevant entry from the 'Panels' submenu of the icon bar menu, or by a Ctrl-key combination.

Bring up the tools panel by clicking with the Menu button on the *Picture* icon on the icon bar, going to the 'Panels' sub-menu and choosing the 'Tools' entry. Open 'Colours' by typing Ctrl-C.

With most of the tools in *DA's Picture*, a different tool can be attached to the Select and Adjust mouse buttons (left and right). In general, clicking on an icon with the Select button will affect the tool attached to Select, and clicking with the Adjust button will affect the tool attached to Adjust.

We will look at each of the panels in turn:

- **The image list**: This shows a list of the images currently loaded into *DA's Picture*. Images can be viewed in the bottom half of this window, and a window containing an image can be opened by double-clicking on its name in the list.

The view has a moveable box showing the visible area of the image.

- **The Toolbox**: The bottom six icons in the toolbox are effectively two columns of three icons, representing the tool settings for the Select and Adjust mouse buttons.

The top pair of icons in the group of six shows which tool is selected for each button, the middle pair shows the 'drawing mode' and the bottom pair the colour for each button. A few tools – the shifter, for instance – use both buttons, so appear in both icons no matter which button was used to select them.

Try clicking with both Select and Adjust buttons on some of the icons in the top part of the tool bar, and see the icon for each button change. The tools will be described in detail later.

- **Brushes**: This panel controls the brush selection for certain tools. Brush size and shape can be selected independently for the Select and Adjust mouse buttons. The 'Pressure' can be set independently for each mouse button, which has different meanings for different tools.

Double-clicking on one of the brushes brings up a window in which the size, shape and hardness of the brush can be controlled more finely.

- **Colours**: This panel enables the colour for either mouse button to be chosen. The colour system – RGB, CMY or HSV – can be chosen by clicking with the Menu button.

Clicking with the Select or Adjust buttons on the colour square on the right of the window assigns the colour to that button.

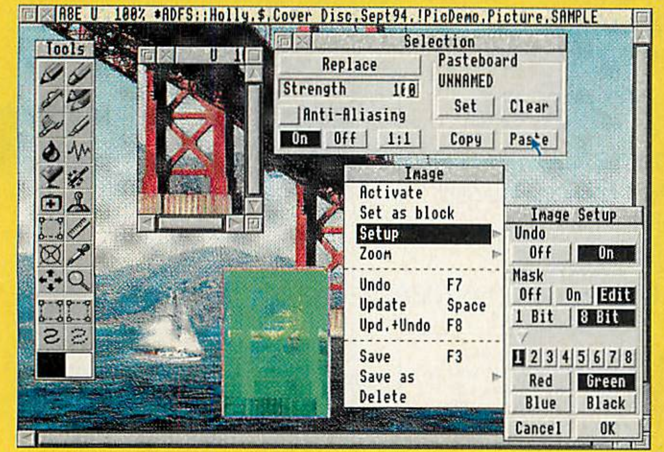
With both the colour and tools panels open, practice assigning different colours to the Select and Adjust buttons. The colour assigned will be displayed on the bottom row of the tools panel.

- **Filters**: This panel enables a variety of image processing tools to be applied to the image. These can be restricted to a block area and affected by a mask, as will be explained later. The type of filter can be chosen from a pop-up menu by clicking just below the 'Type' button.
- **Blends**: This panel enables areas of the picture to be filled with blends between colours, or a single colour. Blends can be restricted to a block area ar affected by the mask, as will be explained later.

The angle of a linear blend and centre of a radial blend can be changed by dragging with the Select or Adjust buttons in the square in the blend panel displaying the blend.

- **Graduation**: This panel affects the whole image, and can be used to alter the red, green, blue and mask colour curves. To edit a curve, make sure its 'Edit' radio button is set, and then draw in panel window displaying the colour curve for that colour.

While you are editing the colour curves, the display



Using the block tool in conjunction with the mask

COVER DISC

changes to reflect the new curves. However, to apply the curves to the image permanently, click on the 'Apply' button.

Open the Graduation panel and change the colour curves for the *Sample* picture.

● **Info display**: This panel displays useful information, for instance the RGB and mask values of a point selected with the colour picker.

The tools

For most of the tools on the tool bar, an 'Extended tool setup' box can be opened by double-clicking on the tool. Remember that a tool may be attached to either the Select or Adjust mouse buttons.

As each tool is described, experiment with it on a part of the *Sample* image. Remember that the brush and colour for the tool can be changed from the relevant panels.





The pencil, crayon and air-brush tools all draw on the canvas in subtly different ways.



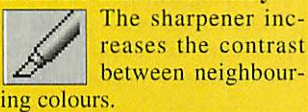
The cloning tool copies a region of an image to another part of the image, or even to another image. The source point is chosen by clicking with either mouse button while holding down the RH Shift key.

Use the cloning tool to copy the yacht to another point on the river.




The finger and water tools both blend colours. The water tool blends colours by softening the edges of coloured areas, while the finger tool smears colours in the direction the mouse is moved.

Using the finger tool, give the yacht an impression of speed by smearing the white from the sails horizontally.



The sharpener increases the contrast between neighbouring colours.



The noise tool increases the level of 'noise' over the brush area.



The fill tool provides a basic flood fill.



The magic wand applies a mask to an area of colour.

It can only be used when a mask is being edited (see later). The extended tool setup for this tool allows the 'tolerance' for detecting the edges of an area of colour to be chosen.



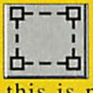
The restorer undoes any effects under the brush since the image was last fixed.

Erase the second yacht which you created using the cloning tool by using the restorer.



The stamp tool 'stamps' an image onto the picture. To select an area to stamp, drag while holding down the RH Shift key. To show the power of the tool, some pre-defined stamps have been included; to use one, drag it to the tool bar.

Drag the *A* stamp to the tool bar, and use it to stamp 'A's in the sky. Now try the *Psycho* stamp.



The block tool creates a rectangular block area. When this is present, all filtering operations apply only to the block. The block is created by dragging with the Select button.

The block outline can be moved or resized by dragging with Select. With all these operations, holding down the Ctrl key constrains the movement in some way.

If the outline is dragged with Adjust, the block shape can be altered, and with Ctrl-Adjust it can be rotated. Clicking once with Adjust removes the outline, clicking again restores it.

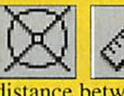
Double-clicking on the block tool opens the extended tool setup for the tool. Using this, you can copy the area inside the block to the clipboard, and paste it back to another area by moving the block.

Clicking below the Mode icon brings up a pop up menu which shows the pasting mode.

The best way to get the hang of blocks is to experiment. Select the block tool and drag round a portion of the bridge in the *Sample* image. Double-click on the block tool and click on Copy from the extended tool setup.

A clipboard appears with the contents of the block in it. Move the block, using Select, Adjust and Ctrl-Adjust to re-size, re-shape and rotate it. Paste the clipboard back in at the new position.

Drag to create a new block, and select a filter from the filters panel. The filter will only be applied within the block. Now select the restorer tool and undo the filter round the edge of the block.




The ruler will measure the distance between two points on screen.

The 'densitometer' measures the colour value of the point beneath the cursor. The values appear on the info display panel.

The colour picker grabs a colour value from the image, and can also be selected by holding down the Shift key while using one of the drawing tools.



The shifter will move the image around, and can also be selected by holding down one of the Alt keys.



The magnifier allows you to zoom in and out of the picture by using the Select and Adjust buttons. Areas can also be zoomed into by dragging with Select. The magnifier can also be selected by holding down Shift-Alt.

Masks

Masks are controlled from the 'Setup' sub-menu of the menu brought up by clicking over an image with the Menu button. When masks are being edited, they may be painted over an image using any of the painting tools – the magic wand is in fact only used for this purpose.

Copy an image to the clipboard using a block operation, set the mask to 'Edit' and paste it back. A mask is produced which varies in intensity with the original image.

When a mask is 'On', painting and image processing operations will only affect the non-masked area, and will partly affect a translucent mask.

The full version of *DA's Picture* is available from CGS ComputerBild on 081-679 7307 (fax 081-764 7898) and costs £120 inc VAT.

Where's the Menu?

This month, because of the size of the *DA's Picture* demonstration, we have had to leave the usual *Menu* application off the disc. Those of you who never used it anyway won't notice any change, of course, but for those of you that did, here is a brief explanation of what to do.

ArcFS: This de-archiving program is normally 'hidden' inside the *Menu* application.

It will boot up automatically when the disc is first seen, and you should not need to take any further action, such as running it explicitly.

Help: The 'Help' option normally provided by the *Menu* application can be simulated in Risc OS 3 by clicking with the Menu button over the application icon in the Filer window, and selecting 'Help' from the 'App. 'AppName'' sub-menu.

Risc OS 2 users will need to open the application by Shift-double-clicking on its icon, and then load the *!Help* file into a text editor.

View: The 'View' (formerly 'Run') option can be simulated by double-clicking on the application icon in the Filer window.

This will open the archive, and allow applications either to be run from the archive or de-archived by copying them to another directory.

Normal service should be resumed next issue.

Disc problems?

Our cover discs are thoroughly tested at each stage of production, but one or two faulty discs may slip through. If you suspect that your drive is faulty, do the following to check it:

1. Put the disc in your drive
2. Click Menu (the middle mouse button) over your floppy disc drive icon, on the left of the icon bar.
3. Click on the Verify option, and a window will pop up showing the verification process.

If verification finishes with no errors – the window says 'Disc verified' – then your disc is not physically faulty and you should contact the editorial office at the address given on the contents page.

However, if an error is reported, your disc is faulty and it will be replaced free of charge. Send it with your name and address to: PC Wise Ltd, Dowlais Top Business Park, Dowlais, Merthr Tydfil, Mid Glamorgan CF48 2YY

Most of the programs on the *Acorn User* cover disc are compatible with both Risc OS 2 and Risc OS 3. However, the discs are only tested on the new system, and we cannot guarantee that everything will work with the old system.

Our advice is to upgrade as soon as possible, as compatibility problems will occur more often as software developers make use of the new operating system.

Blunderbox

There was a 'ghost' application on last month's disc. *PedalBin* in the *WimpTools* archive had neither a *!Run* nor a *!Runimage* file, making it less than useful. Rather than these files having been missed off, in fact the program should not have been on the disc. We apologise for any confusion caused.

NEXT MONTH IN ACORN USER

HomeWorks

The best application ever to appear on an Acorn cover disc

Over the past year and a half, *Acorn User* has brought you some of the most impressive cover disc applications ever seen in the Acorn market.

June 1993	The *Acorn User* Ray Tracer
August 1993	The *Acorn User* Morpher
October 1993	*OmniDesk*, the flexible desktop application
December 1993	*Scribe* Optical Character Recognition
January 1994	*Artist*, the complete art package
February 1994	Complete C interpreter
June 1994	*QTM*, the *Acorn User* soundtracker player

Next month, *HomeWorks* will redefine the standard of cover discs forever.

The best Acorn magazine just gets a whole lot better.

NEXT ISSUE ON SALE 8 SEPTEMBER

DA'S PICTURE

DA's Picture is a 24-bit art/image processing package, compatible not only with the new RiscPC, but also the older range of machines and most graphic cards. All the tools, modules and palettes can be moved to where they suit you, and are not fixed.

- **Virtual Memory Management** enables large pictures to be edited without massive quantities of RAM.

- **Dual Mouse Control.** Each mouse button can be assigned a different and independent tool or colour.

- **Tools.** Pencil, Marker, Airbrush, Watercolour, Smear, Dither and our unique Stamp tools allows an infinite number of brushes, such as Fractal, Grass, Ball and many more.

- **Filters.** Erode, Blur, Sharpen, Invert, Contour, to name but a few.

- **Masks.** Both 1-bit and 8-bit masks can be used. It is also possible to import greyscale pictures as masks, and even make a stencil from a mask.

- **Palette.** User palettes may be defined and saved. The "Colour Pick" tool makes grabbing colours from pictures child's play.

- **Block Clipboard.** Cut up your images and paste them in numerous ways. The clipboard menu allows you to define many parameters before pasting an image, e.g. any degree of transparency, colour saturation, negative, tinted, scaled.

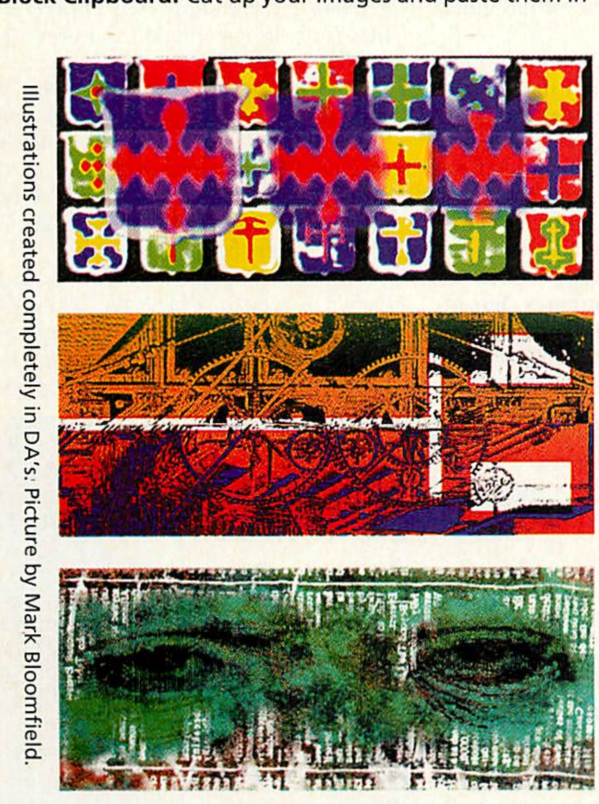
- **Zoom.** The magnify tool allows super fast zooming in and out. Simply aim the mouse and click until you reach the required zoom level (13 levels). Zoom out to one 17th of original size.

- **Gradient Creator.** Design Linear or Radial gradient fills for use as backgrounds, masks etc. Gradients can be dithered to obtain many different effects.

- **Colour Gradation.** This module allows images to be re-coloured by adjusting the amount of each colour present in an image. For instance change greys to sepia, or correct the colours in a scanned or digitised picture. These settings can be saved for further use.

- **Import/Export.** TIFF, as well as Sprite, JPEG, TGA, GIF and PhotoCD.

- **Options.** DA's Picture is a modular program, this means peripherals such as Scanners and Digitisers can be used within the program. The first module (available soon) is for the Epson 24 bit colour scanner, next will be the Vector Module. This module is used to import or draw vector graphics. You can use various tools on vector paths, for example airbrush, marker, stamps.



Illustrations created completely in DA's. Picture by Mark Bloomfield.



The tools used to create the illustrations.
All Trademarks Acknowledged.

Please send me a copy of DA's Picture for the Acorn @ **£120.00** inc VAT and p&p (Single User Version)

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Acorn in Business

Philip Ensor looks at the use of Acorn machines in commercial environments

This issue of *Acorn User* is taking a detailed look at where Acorn products are in use professionally and as a result of hard-nosed commercial decisions based upon efficiency, productivity, ease of use and appropriateness.

Why does this September journal feel the need to drum this message across? As if anyone would use Acorns merely because they were an enthusiast. Well, one of the reasons is to challenge the deluge of negativity and misinformation that comes from the vested interests in the PC world.

There is an infamous phenomenon that was put succinctly by Goebbels, who was Hitler's propaganda chief and considered to be the father of modern political propaganda, who if alive today would probably be a highly successful Marketing Executive.

He once said, 'If you repeat the same lie enough times, people eventually start believing it.'

Articles like this are important to dispel the mythology that builds when the 'I don't know about you, so you don't exist' syndrome (about which I have written before) is in effect.

If you read this magazine, whether as a casual Acorn user or as an enthusiast, then what I'm about to say is likely to be familiar to you. The three biggest lies in the world of computing are:

- Acorn is not industry standard.
- Acorn is only an education supplier.
- Acorn doesn't have much of a software portfolio.

Let's take these apart, and see what substance they contain...

Acorn is not industry standard

What the devil is industry standard? Does anyone know? This much-maligned expression is often wheeled out by people wishing to justify their condition of terminal myopia when it comes to all things computing, and is especially suited to the 'IDKAYSYDE' brigade or their close cousin 'I don't know about you, and what's more I don't want to' (a *so there* at the end is optional).

If by industry standard our friends above mean at the physical level, then what platform supports more floppy disc formats than Acorn? Especially now that Computer Concepts has launched its *MacFS* application to join all the other formats available.

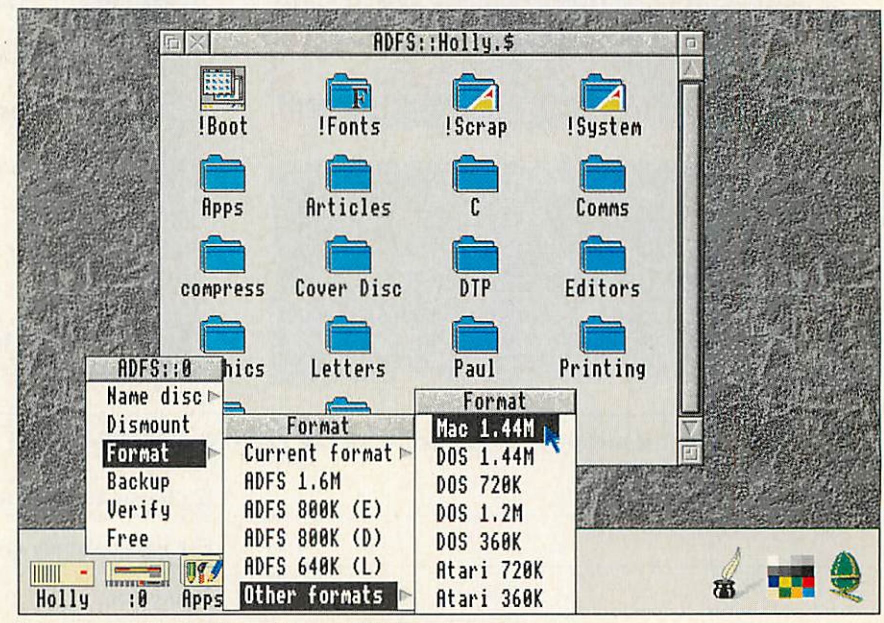
If they mean at the data level then look at graphics files. Virtually all file formats in common use within the industry including TIFF, JPEG and Kodak PhotoCD are either already supported or will be very soon.

Coupled with the import/export facilities included in applications like *Artworks*, not only is there no barrier to anyone involved with graphics, but of even more importance is the fact that they can use an Arm-powered machine with graphics handling abilities streets ahead of rival platforms.

Let's say you want to use a spreadsheet? Well, *Eureka*, *Resultz* and *Schema 2* have supported *Lotus 1-2-3* files for both import and export for some time.

This means that virtually any PC spreadsheet can be saved out as a *Lotus* format, loaded into the Acorn machine on a native PC format floppy, and later, the process can be reversed for re-loading into the PC, leaving intact formulae and layouts within the spreadsheet.

The newest iteration of *Eureka*, to be known as *Eureka 3*, takes this philosophy one stage further and broadens file format compatibility to include *Microsoft Excel* files, and will also include a font mapping



Acorns can read and write a plethora of file formats

facility to match the PC font to the corresponding Acorn font, thus making data file portability even more seamless to the user.

What about WP & DTP? Check the loaders available for the various *Impression* versions these days, including *Microsoft Word*, *WordPerfect* and RTF format files (dare one say it – an Industry Standard!).

Databases? *S-Base 2* already supports DBF file formats... Presentation packages? *Genesis*... And so on.

The message in the above examples is, of course, that the Acorn world acknowledges the rest of the world but much more importantly, Acorn users are not being corralled down one particular narrow path to obsolescence and the inability to talk to other platforms.

On the contrary, Acorn's attitude, and that of the principle software suppliers, is to bring the rest of the computing world to the user in the same box on the desk.

Nothing could illustrate this more dramatically than the philosophy behind the Risc PC, with its Open Bus Architecture allowing more than one processor to live in the same machine.

Acorn is only an education supplier

Why is Acorn so successful in the education market? Despite ruthless competition over the last few years from Classicl, Research Machines, Elonex, Dell, Apple and many others, Acorn still has most of the primary market and a large part of the secondary market.

The answer is not difficult to identify. Put a child in front of a computer and allow him/her to give vent to their creativity. It is a pure form of computing but one that requires an intuitive environment to allow the thought processes to develop.

Superficially, the child can point and click with the mouse in MS Windows as they can in Risc OS, but what happens when they want to move the current window out of the way to see a different application, or they want to drag and drop some data between applications?

Well, obliging them to use some of the features that deal with the limitations of MS Windows, like Alt-Tab or the Clipboard, is not intuitive, and without instruction these are unlikely to be apparent to the child.

The same is true for adults, and anything that makes a computer more intuitive and productive in use is as appropriate in business as it is in the classroom.

It is interesting that the latest rumours coming from America on the new operating system to supersede MS Windows is likely to feature an icon bar!

There are other important considerations for the education market place including value for money, futureproofing and so on, which ought to be as important to commercial customers as they are to educationalists.

Acorn doesn't have much of a software portfolio

What this usually means is that you can't run Microsoft (or possibly, Lotus, Claris etc.) products on Acorn hardware. It is not the same as not offering a rich vein of high quality titles to suit virtually every application and requirement.

Acorn's current philosophy apparent in the Risc PC means that you can add to the native software titles anything produced by the big boys and run them on your co-processor, and furthermore, in a multi-tasking environment.

There are some particular stars that we will read about in the articles that follow but one title I'd like to single out is *Sibelius*, the acclaimed music processing package, which has had rave reviews and is acknowledged to be the foremost package of its kind on any platform.

So, if I'm into music composition and looking for the best tool to use, I focus on what I want to do with the computer rather than any narrow hardware requirements, and this is always the best way to choose your computer.

Which takes us back to how I opened this article. The key question is 'What am I going to use it for?' We always need to remember: efficiency, productivity, ease of use and appropriateness.

Not all news is good news

There are, unsurprisingly, some areas of criticism if Acorn want to be more successful in the business world. Two in particular spring rapidly to mind – software developer tools and networking.

The lack of a C++ compiler is often cited as a major omission by developers who need to have a comprehensive toolkit if they are going to be attracted to develop creative and clever software for use on this platform.

Similarly, the absence of Novell compatibility to the Acorn world is a major drawback to commercial users. Until an Acorn box can sit on the same network and share resources with PCs, this will continue to be a problem.

A potential structural problem for Acorn in all this is the fact that it owns its hardware technology and therefore makes decent margins on hardware and this might act as a disincentive to the added value parts of the computer business, where the real profits are in areas providing for niches, solutions and services.

For Acorn to succeed in the long term, the sort of uses for their hardware that we will read about in this magazine need to be much more the norm, rather than the exception.



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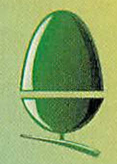
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Back to the drawing board



Steve Powell discovers that the Archimedes is proving a useful tool for CAD in the professional world

The Acorn platform has a very flexible CAD package in the form of Minerva's *ProCAD*, and although the vast majority of professional CAD users are based on PCs, there are a number of companies who use Acorns in the CAD world, and are very pleased.

Here we look at two such companies: Portscene in Carlisle and AED in Sheffield.

Portscene

Portscene is a building services consultancy which deals mostly with mechanical and electrical installations inside buildings, such as wiring and ventilation schemes.

When establishing the practice, the founders looked for machines which could produce high-quality documents as well as handling technical drawings and technical information from a variety of sources.

They also required systems that would be both easy to use and flexible, and settled on the Acorn since it fulfilled all of these requirements.

Portscene produces technical documents using *Ovation* and points out that the ease with which they can incorporate drawings from Minerva's *ProCAD* directly into documents is unparalleled on other platforms.

Its accounts are maintained on a standard PC package for compatibility's sake, and employees frequently port information from other platforms and use manufacturers PC-based databases/information, thanks to the PC emulator.

They still do a large amount of conventional draughting but use *ProCAD* to interface to the 'industry standard' *AutoCAD* via the package's comprehensive support of DXF files – they find that *ProCAD* is faster and more productive than its PC-based counterpart.

AutoCAD has far more features but many of them are rarely used by most people and *ProCAD* offers all of the major tools and makes them far easier and quicker to use: it almost sounds like the Risc philosophy being applied to software.

They feel the Acorn's strength is in its ease of use and the ability to pick new software up quickly and easily.

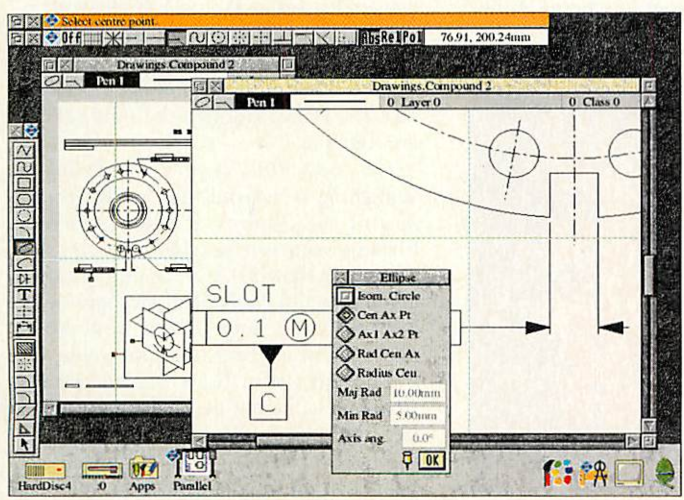
They also comment on how many people are impressed by the quality of the documents they produce and how many of them produce less polished documents with more expensive PC kit.

Portscene also mention how few have even heard of Acorn let alone used them, but many are impressed by what they see.

The biggest gripe they have is that Acorn appears to spend all of its time targetting the education and home markets while neglecting the business market; the expression 'a voice in the wilderness' springs to mind.

Architects Engineers & Designers

AED is a small practice that deals with a wide range of work. It uses Acorns throughout the business and though it is just starting to use *ProCAD* for drawings, it has been using its Arcs to produce schedules of works for several years.



ProCAD is proving a more than capable CAD system

The move onto Arcs was a natural progression from the BBC where *Wordwise* was used to do a similar task.

The currently-used package is *Premiere*, and by AED's own admission the practice couldn't handle the same volume of work without its machines.

Zan Sidwell is a co-director of the practice and has nothing complimentary to say about PCs.

'We needed the continuity from the Beebs,' says Zan, 'and wanted to port all our own macros and code that we'd written for *Wordwise* such as non-printing notes and the like.

'It was a bit of a gamble since the software didn't exist then and it surprised me how long it took for good CAD software to appear, since *Draw* lays many of the foundations required.

'As for PCs, they cause nothing but problems. I wouldn't go out and buy a PC program due to the hostility of the environment – I'd prefer to use a pencil instead.'

AED has just finished moving all the libraries and various bits that are required into *ProCAD* and is looking at completing its first project using the Arc to do the drawings. It's a lot of effort but it will be repaid eventually.

'We have been drawing by hand so far,' explains Zan, 'and use the Arcs to word process and maintain databases of photos and components. We also use *Fireworkz* to do our accounts and occasionally use *ArtWorks* to decorate a drawing or two.

'The Acorn's biggest problem is its lack of user support, although PC's aren't any better and Minerva has been excellent.

'The only real gripe is that the software base is still a little small and as such some packages are less polished than they could be.'

In this the final episode in the bitmap graphics trilogy, we ask the professionals for their views. Four artists covering fields ranging from photography to fine art have digested and pondered over the latest releases of graphics software on the Acorn. Here's what they had to say.

Vaughan Allanson

Six years ago Vaughan closed the doors on computer training to dedicate his work to professional graphics production. His work designing documents and vector graphics began on a humble A3000 previously purchased for his children's use.

Vaughan is responsible for bringing the Wacom pressure-sensitive graphics tablet to the Acorn, something which has been utilised by nearly all of the players in the revitalised Acorn graphics scene.

Vaughan reckons that, in its present state, the Risc PC will future-proof the Acorn for at least the next five years, though his opinion is that this major technological leap was long overdue.

He feels that the platform has evidently lagged in the past but the new bitmap applications are as much an advance over the software of old as the Risc PC is over the A3000.

Albeit the most expensive and therefore having the most to live up to, *Photodesk* is Vaughan's number one choice: 'A very powerful and easy-to-use program ... endless possibilities with the ability to apply any effect with any tool.'

Compliments abound, but there were also a few criticisms, most notably that there was an unnecessary delay in windows and options boxes appearing – annoying when operating with multiple images.

He sees great potential for *DA's Picture* but would like to see the promised improvement in 256 colour rendering and the additional effects and path modules.

Studio24 is (without having seen *ProArt24* yet) the 'best painting package' but is a little slow and lacks a cursor buffer. 'The rendering of imagery and text is excellent,' says Vaughan, 'though Pineapple will have to put in what it promises, like the Virtual Memory, for the price to be justified for me.'

Vaughan's wish list includes layering – *Com-position* cannot arrive too soon – and the ability to add third party plug-ins like Kai's Power Tools for *Photoshop*, with marvellous features including fractally generated textures.

Varying brush width with the pressure-sensi-tive graphics tablet is also missing. 'With such facilities, the Acorn platform combined with the right marketing should win over a few Mac devotees with these new 24-bit packages' Vaughan predicts.

Walter Briggs

Walter brought his graphic and artistic design company Kingfisher Graphics into the public eye by winning the Computer Concepts *ArtWorks* competition.

He finished college in 1968 as a graphic illustrator and after 'being there and doing that' in many areas of art including sign writing and calligraphy, Walter found his niche in airbrushing.

Through a quite convoluted series of circumstances following an unfortunate accident, Walter's mural work was produced using *Poster* on the Arc.

The platform as a whole was less than adequate at the time for serious creative art but he 'always believed the potential was there,' though he hoped the hardware would have been able to support such software earlier than it did.

The present state of the platform Walter describes as fabulous, at least for his type of work. The feel of the software is very similar to that of his favourite Media the airbrush. *Studio24* is peerless in Walter's opinion. The Airbrush facilities, once customised, are the most controllable and accurate in rendering and the much utilised 'smudge' brush is so accurate he can only describe it as 'like smearing oil paint with your finger.'

He also commends the 'intelligent' fill tolerance control for graduated fills – the fills on the other programs being either too sharp or too soft. However, in the default software the brush size range needs improvement.

Virtual memory and speed is of little importance to Walter and as you can see, his artistic prowess is truly exemplified with the use of *Studio24*. *Photodesk* is a close second, and a combination of the Spacetech and Pineapple products would be the ultimate combination for Walter.

Movable 8-bit masks, undo brushes, zoom boxes and virtual memory are useful but these packages, *DA's Picture* included, just don't seem to have that painting on canvas feel.

Walter continues to say that *DA's Picture* is a very refined fast package, but doesn't have the creative potential of the others: 'Great for photo retouching, with excellent cloning cutting and smoothing tools, but not for me. Speedy, smooth and efficient, but lacks character (in its present state).'

Walter, as a producer of original artwork rather than a manipulator of scanned imagery, has much praise for all but the marketing of the Acorn platform, though he says 'for a graphics package to be really outstanding you have to be able to create from scratch.' Most fine artists would readily agree.

Colin Thompson

A writer and illustrator of children's books, Colin uses Acorns for his pre-press publication and page layouts for work such as calendar production. He is in the process of producing four CD-Roms (for the Mac, PC and hopefully the Acorn), the first of which will appear in the next year or two.

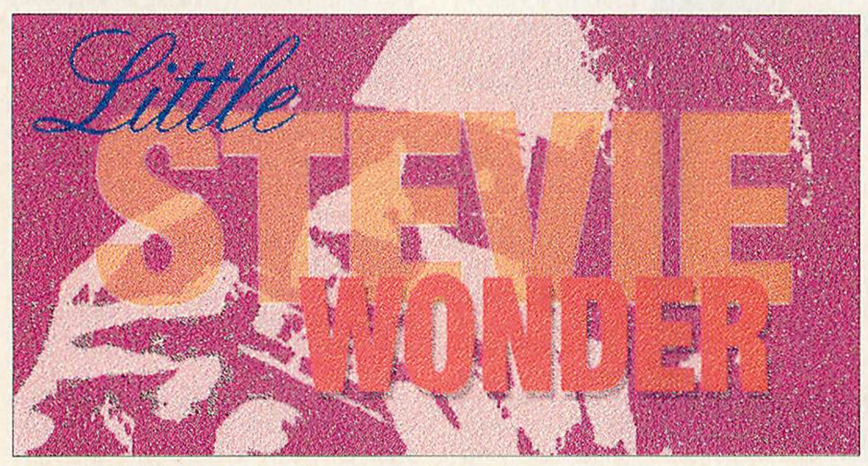
These will be jam-packed with graphical imagery produced primarily by hand and manipulated and even animated on computer.

Colin has enjoyed a long relationship with the Acorn platform, progressing through just about every model of machine from the Master to the Risc PC. Only since the latest hardware and software developments has he 'really been able to do real colour graphics.'

Colin, an advocate of the compact, palette-optimised 256 colour sprite standard, had a high opinion of packages like *ProArtisan* though the new releases are 'fabulous.'

He feels that 'every program has something wonderful to offer that isn't in any of the others.' It seems his ideal bitmap solution would be costly, but Colin followed by saying that in comparison to equivalent packages on the Mac and PC, any of the new Acorn packages would be astonishing value.

Though Colin feels biased towards *Photodesk*, having had it for longer than any of the others, he feels as if it is by far the best program, 'the most intuitive ... could get great results without reference to the manual.' *DA's Picture* is more



Little Stevie Wonder by Vaughan Allanson using *Photodesk*

The picture **professionals**

Jack Kreindler asks four professional artists for their views on the bitmap graphics packages on the Archimedes

sophisticated but – needing more than just photo retouching tools – Colin believes that it doesn't offer enough for the creative artist, with no text or *Draw* file importation facilities.

He criticises both products for having no means of direct printing and wonders how much all the extra modules will cost on *DA's Picture*.

Colin 'couldn't really get into *Studio24*,' but liked the acclaimed smudge tool. 'A very good painting program with a few reservations ... the brush size range is too small ... easy to get lost in the manual,' are among the minor complaints that Colin voiced. He found *ProArt24* (a Beta-test version) the most rounded painting application, and a good complement to *Photodesk*. *PhotoTouch* (presently being upgraded) and *Studio24* are excellent supplementary tools, but perhaps a little expensive as peripherals.

Having spent merely hours on Clares' *Composition* (beta release) he'd definitely buy it too.

Colin asks when 24-bit animation software, a cheap Genlock card and the elusive PC card will arrive, but says that in its present guise the Acorn platform can now offer as much as the renowned Quantel PaintBox ever could.



Vita Regan

Vita is *Acorn User's* photographer and a student of photography, using *Photoshop* on the Mac as an integral part of her work.

Reviewing the packages from the standpoint of a professional photographer, Vita has a number of requirements for packages to be of any use: an intuitive interface, easy-to-use cut/copy/paste and clone tools, com-prehensive image filtration and pro-cessing, creation/manipulation and saving of paths, and outputting to industry standard formats (to name only a few).

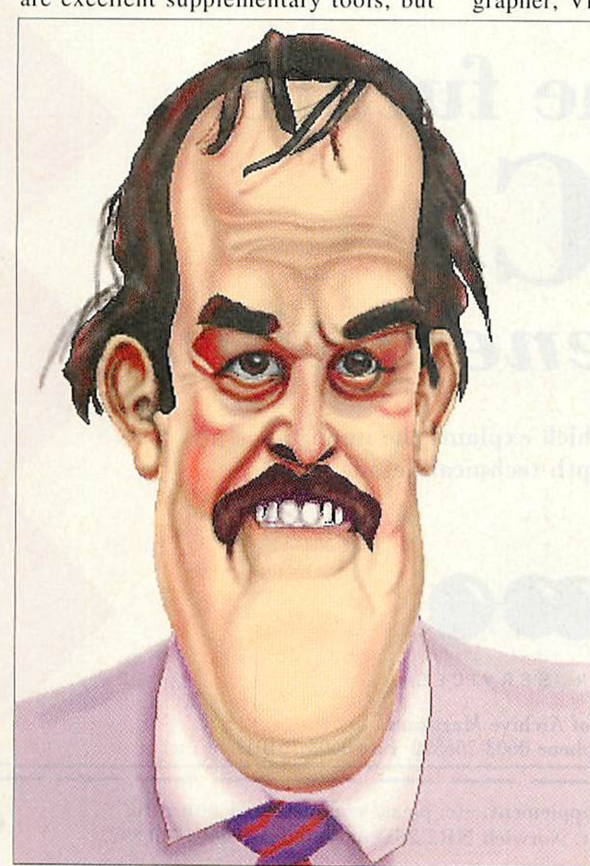
Photoshop does more than the job and is pretty fast on a big Quadra or Power Mac, so how do the Acorn photo retouchers fair? The version of *DA's Picture* which Vita reviewed was unfortunately an early test release and was understandably little used as she couldn't save images out.

One of the features which was commended was the ability to select different tools for the two main mouse buttons. Vita found the interface a little dull, and it can be confusing to see what tool was selected, but because of her work with *Photoshop* the use of virtual memory and the modular structure of the program were additional strong points. 'Where was the text module?' – soon to arrive with many other effects, printing and scanning modules, says Digital Arts.

With *Photodesk*, Vita had much praise for its 'marvellous clipboard feature ... sensible toolbar layout ... fast and accurate toning and processing tools ... and right button undo' but was critical of the 'blind' cloning, and the current absence of printing facilities.

Studio24 without an 8-bit mask or virtual memory – to be implemented in future versions – was unsuitable for Vita's work. Having said that, Vita did like the customisable textures, the text and simple printing features, graduated fills and the overall rendering of images.

'From a professional viewpoint none of the packages would do jet ... the Risc PC is highly capable and the software has the potential ... but at present there is no proper CMYK processing, printing or 8-bit layering.' Wait six months, or at least until they are more complete and others have been released, like *Composition*, *ProArt24* and *PhotoTouch*, and then Vita may be swayed away from her current love, *Photoshop*.



John Cleese drawn by Walter Briggs using *Studio 24*

Licensed to print

Steve Powell and Jack Kreindler look at some printing firms who, in a Mac-dominated environment, have chosen Acorn's system

Acorn systems are becoming increasingly popular in the field of publishing, and here are a number of case studies of the people who actually *use* the machines. If you've been looking for justification for buying an Acorn publishing system, read on...

Purbeck Press, Swanage

The directors of Purbeck Press cheerfully describe themselves as jobbing printers; they are the grass roots of the print trade. They don't produce glossy corporate brochures, they do the day-to-day work that keeps the vast majority of printers in business.

They design and produce everything in house and cover everything from business cards up to 40 and 50 page brochures. Process colour is something most of their customers can't afford, so spot colour and black and white printing forms the bulk of their business.

Until the purchase of a Graphtex system they produced everything using a traditional AM Varityper and paste up techniques. As a result they were looking for something that could go straight to artwork and handle graphics.

After originally considering only Apple Macintosh equipment, they were put off by the ever-changing product range and lack of comparable quotes.

Their isolation means that compatability isn't as much of an issue as it may be for other users.

They first saw the Graphtex system on the Acorn/AB Dick stand at the Wembley Acorn World Show last year.

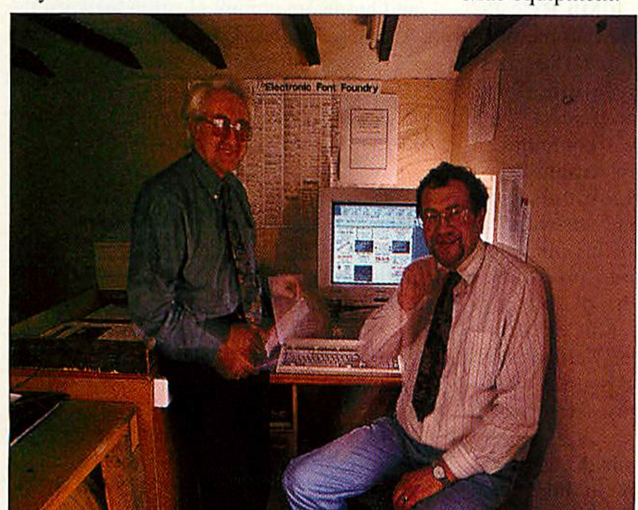
They were impressed since the system offered all the functionality of a high-end Mac at very competitive prices. Their knowledge of AB Dick (they operate two AB Dick presses) gave them the confidence they needed.

The system was demonstrated to them and any doubts they had soon vanished. Danny Smith, the main operator, was concerned about eye strain from the monitor, but has had no problems at all with the 21in monitor they settled upon.

They readily admit to having precious little computer experience prior to using the Acorn, but were producing finished artwork within a couple of weeks.

The system is described as very much a pick up and go solution and they feel that there's an awful lot of potential that they have yet to tap. They mainly use *Impression* and their *Publisher* upgrade has only recently arrived.

They are still experimenting with *ArtWorks* although they haven't had the time to get to grips with it. They describe *Publisher* as terribly good and note that it runs noticeably faster than comparable Mac equipment.


Jim Farrer (left) and Graham Jorden of Purbeck Press

The printer is a little slow but they appreciate that speed has always been a problem with PostScript.

They generate camera-ready output and produce plates using a repro camera.

Quality was something that they weren't willing to compromise on and they haven't been disappointed.

Purbeck have so many favourite bits of the system. They like the WYSIWYG screen displays – a vast change from the command line driven Varityper – and the ability to make last minute changes and just reprint the output rather than having to unpaste and repaste the output is a major bonus.

They also like the easy generation of reversed text and resizeable borders which have posed problems when using paste up techniques; the scanner which enables them to scan in graphics and touch up low quality graphics quickly; and the graphics are much easier to use in documents than has been the case up until now.

They also mention that half-toning is excellent thanks to the 600dpi output. There's no messing around with exposure times and screens when it comes to the repro camera, and separations are simplicity itself.

The only gripe: *Impression* has grown up from a word processor rather than as a typesetting tool and its facilities and methods of doing things reflects that.

It's not that it lacks anything, but its methods and terminology are somewhat unconventional from a traditional

typesetter's viewpoint.

Bross Supplies Limited, Dartford, London

Bross is more design oriented than Purbeck. It also deals with the stock trade of the printing industry as well as glossy colour brochures. They are incredibly busy and mention that the Graphtex system enables them to turn work around far faster than they could previously.

Their current work is mostly spot colour but they are looking at moving into process colour. They design artwork, such as logos, as well as creating page layouts.

Bross decided on an Arc after seeing them at the Ipex exhibition on an AB Dick stand.

The ease of use of the Acorn was a big factor in their decision to buy non-Mac. They also quote the price as a major factor, as well as familiarity with Acorns thanks to friends in education.

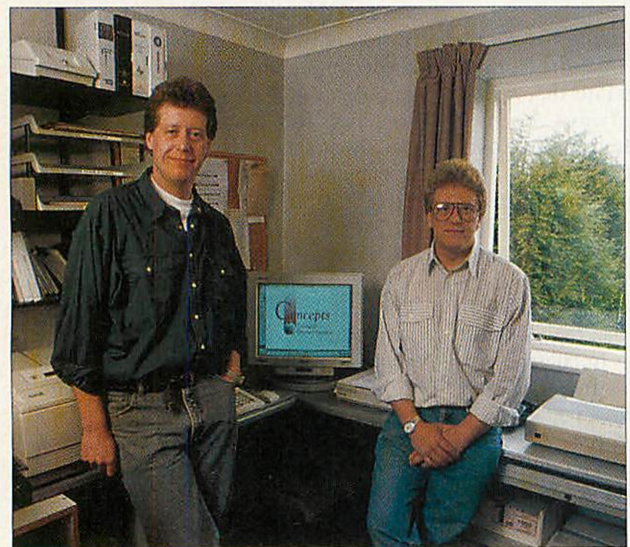
They wouldn't describe themselves as techno-buffs but are picking it up, and feel that the Arc is ever so simple since it is laid out very logically. Bross are pretty dismissive of DOS since it is 'over-complicated'.

The Arc's filing system is simple and straightforward, with no obscure commands. This is their favourite feature, along with the versatility of the software and similarity between packages which enables them to be picked up rapidly.

They have upgraded to a Risc PC and though they are now on their third monitor they say replacement was swift – in one case it took less than two hours.

They've also upgraded the Risc PC themselves and comment on the ease with which this is done. Although this is their first venture into DTP Bross say they have learnt a lot. They do feel there's still a way to go though.

Biggest Gripe: Lack of rotating text. Creating one landscape page among a portrait document is a real problem when sending to a bureau, so being able to rotate the text would have been nice, since importing it from *ArtWorks* or *Draw* works is a bit cumbersome.



Roy (left) and Gary Wilson of Bross Supplies Ltd

TJ Reproductions

It would be foolish to attempt to compress the workings of TJ into anything less than a full-blown article. So within the confines of these words we've tried to describe probably the most established and well-equipped dedicated Acorn imagesetting and print bureau in the country.

TJ offers a level of professionalism unparalleled in professional imagesetting, born of extensive experience and an uncommon willingness to ignore industry standards and market trends by choosing the equipment that suits the job, without prejudice.

To produce artwork – forms, logos, page layouts etc. – takes half the time on an Acorn system than on the Mac. In fact, Tony Tolber managing director of TJ, goes on to say that his extremely powerful Mac system is only required for file importation and driving his scanning and imagesetting devices, and is used 'as an add-on to the Acorn system.'

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Land Mobile Magazine — just one of TJ's products

In the area of typesetting and DTP, speed is of the utmost importance as productivity is directly proportional to the success of the bureau.

Three years ago when TJ moved away from plate making and typesetting for printers into computer typesetting and DTP, the cost-effectiveness of the Acorn platform was the most alluring influence, and the cost factor remains very prominent today.

For TJ to commission custom-written drum scanning and buy a 40Mb Risc PC would be half the price of the off-the-shelf Mac solution, Tony explained.

Tony's contempt of the unwarranted cost of Mac-publishing hard and software (at least for his purposes) can be no better illustrated by the words of his marketing manager Keith Parker, 'Many people swear by Macs, we swear at them!'

For small businesses to stay in business, productivity must be maximised and costs minimised – the Acorn platform has the potential to provide this. 'However, Acorn Computers and Acorn third parties have a way to go to convince more people that the platform can produce results comparable with the so called 'industry standard platforms,' remarked Tony.

TJ is in the process of setting up a professional sales, support and high-end service facility by the end of the year.

Tony's expertise will undoubtedly benefit the small printers' market and he hopes many more suppliers will follow the trend, supplying the Acorn market of the future.

But for this to become reality, Tony stresses the importance of full software and hardware communication between the Acorn and Mac – perhaps even a Power PC second processor for the Risc PC – in order to transfer files and for the necessary, but very high-end and seldom used professional repro facilities available on the Mac, to be used.

TJ offers imagesetting, typesetting, design, scanning and printing services and provides this for a number of companies in the Acorn world, such as Oak Solutions and Irlam Instruments, and produces anything from small adverts to the 10,000/month *Land Mobile Magazine* (pictured).

TJ is also the recommended typesetting bureau of Computer Concepts as not many offer the same level of Acorn software support, let alone the same standard of service that TJ does.

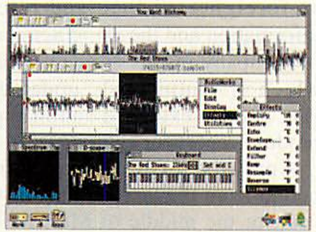


Eagle M2 — *soaring* to great heights

Eagle is the new do-it-all multimedia system for Acorn computers. It can handle a wide range of data types, combining the ability to capture sounds, still pictures and movies. The advanced hardware is accompanied by some of the best software available for manipulating data from all of these sources.

• Greyscale and full colour (8, 16 and 24 bit) *real-time* video digitiser. • ScanLight greyscale image processing software • Stereo audio capture and playback • AudioWorks audio processing software • Audio mixing of Eagle and computer sound with mixer software •Audio control software for linking arbitrary desktop events to any sound • MIDI in, out and thru (Acorn MIDI standard compatible) • Acorn !Replay compatible movie capture • Acorn !Replay movie compressing software • The amazing Eidos real-time movie capture software • !TakeTwo video application supports live video in a window on the desktop





"This superb interactive sound and vision card has set a new standard for others to chase... an essential creative powerhouse for the artistically inclined... it looks set to be one of the highlights of the year". **Acorn User.**

"Results obtained with it are superb... Eagle does so much, so well, for such a modest outlay that it will take some beating. In short, Eagle comes highly recommended". **Archimedes World**

Price: £329 + £6 carriage + VAT (£386.57) including the Eidos software.

Consists of one standard size expansion card, suitable for all machines that accept this size expansion card, including the new Risc PC. RISC OS 3.1 and a minimum of 2 MBytes required (ARM3 and 4 MBytes for movie recording and sound output).

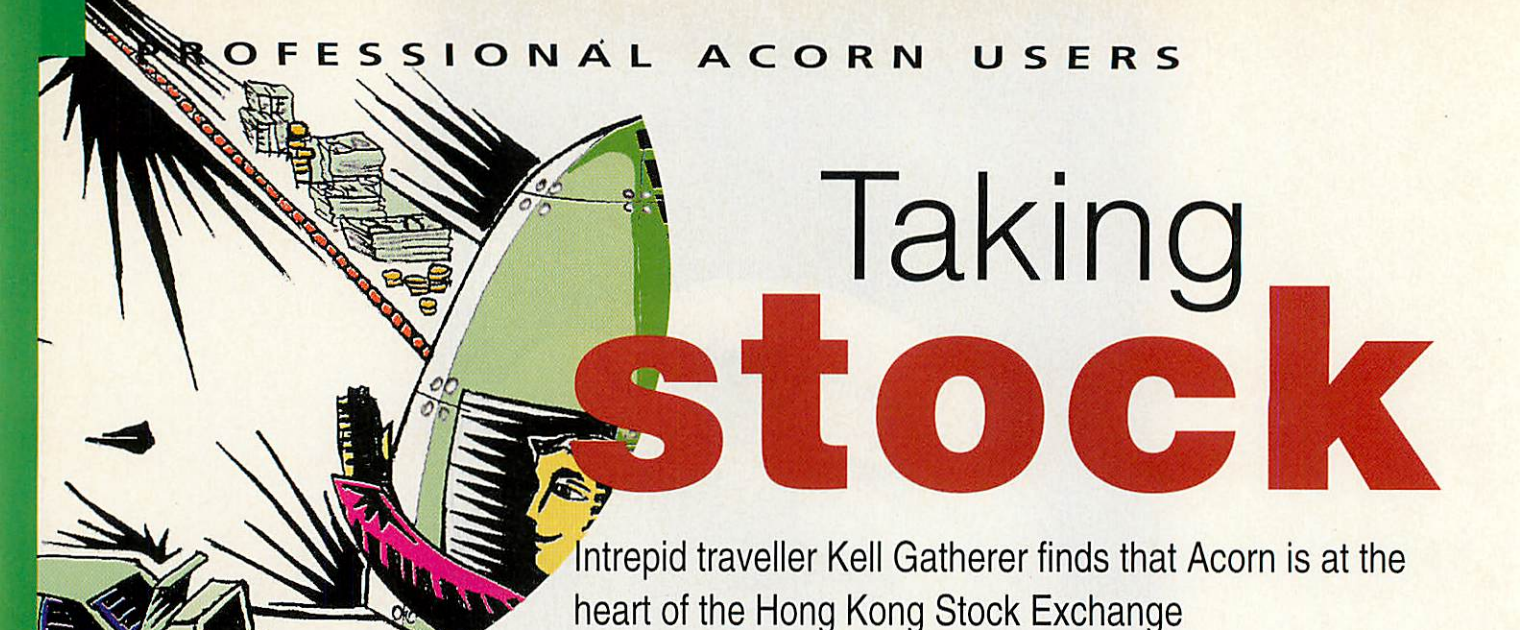
Acorn Replay™

Further details are available from Computer Concepts on request.



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Taking stock

Intrepid traveller Kell Gatherer finds that Acorn is at the heart of the Hong Kong Stock Exchange

More than 11 years ago Acorn set up a subsidiary in Hong Kong called Acorn Far East, to source components and act as the Far East distributor. Although Acorn sold its interests many years ago, the initials remain, and AFE Computer Services Ltd has become an extraordinary Acorn success story.

Initially AFE supplied to .Hong Kong schools, with perhaps 95% of the BBC Micros sold being used in education.

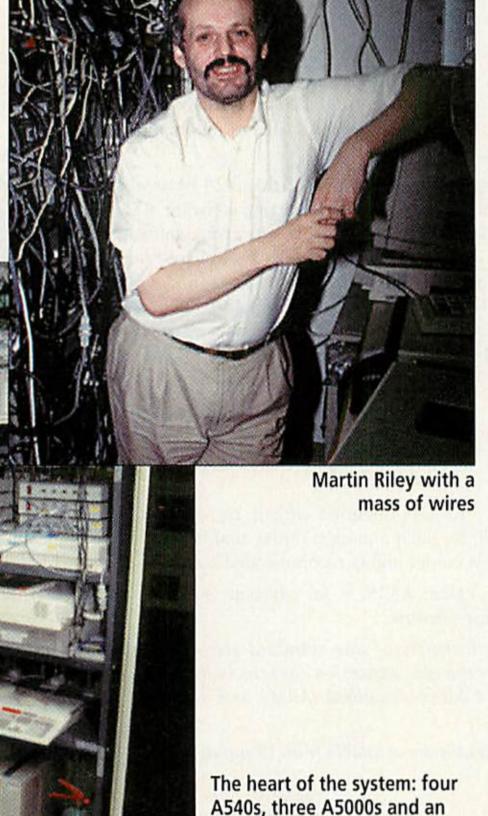
Today the situation is effectively reversed: while sales to educational establishments have more or less remained constant, only 5% of Acorn sales are in this sector, the remainder being to the Hong Kong Stock Market.

Teletext network

Stock markets all over the world rely on fast and efficient data transmission. AFE's initial contract in 1985 was to supply 1000 teletext terminals to hook into the stock market's existing hard-wired teletext network. BBC Micros were adapted to run this system, and indeed about 1000 are still in use. Teletext in this regard should not be confused with the old mode 7 teletext we saw in this country: the stock market's system consisted then of some 800 pages with a call-up time of less than a second.

These monochrome pages are still supplied by the core stock market information suppliers, and basically display information exactly as it would appear on the trading floor.

By 1988, AFE had installed over 3500 BBC-based terminals; with the advent of the Archimedes range of micros, AFE took the system quite a few stages forward. The old stock market teletext network relied on being hard-wired, and indeed you could only join in if your offices were within aproximately half a mile of the network.



Martin Riley with a mass of wires

The heart of the system: four A540s, three A5000s and an A3000

In 1990 AFE launched its own live financial information service under the name 'The Stockmarket Channel' (SMC). This system grabs the teletext pages and digitises them so that they can be sent down telephone lines anywhere in Hong Kong or Kowloon (and even to Portuguese Macau, some 40 miles away).

At the customer's office, the data can feed dumb teletext machines as before; however now that the information has been digitised, the graphic display can be dramatically improved and other services incorporated. A3000s were initially supplied as the first full colour terminals available on the teletext service.

Comprehensive

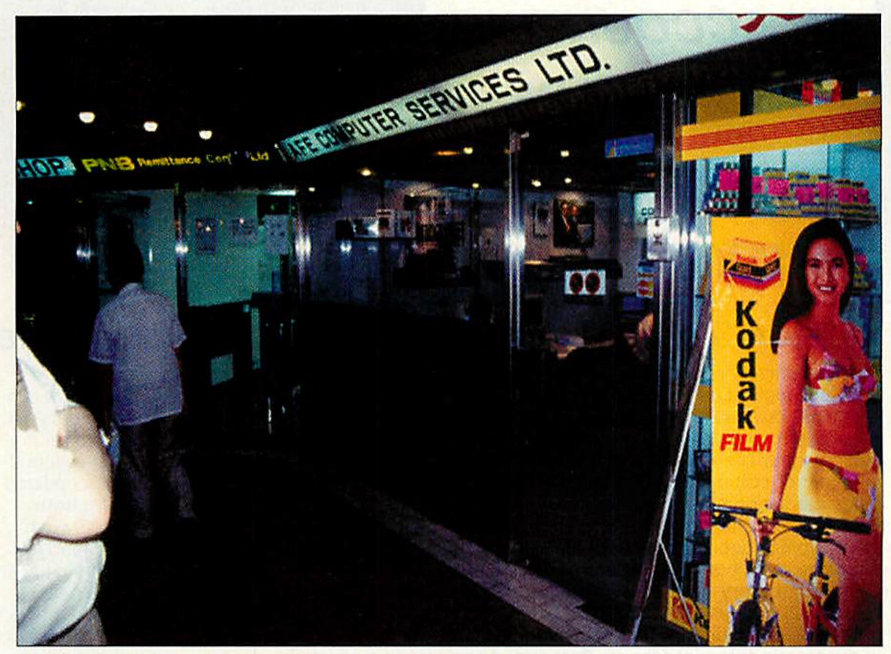
The improvement over the original service is dramatic: bidding and asking prices are displayed in different colours, and where once there were only figures there are now descriptive captions.

On the teletext pages, prospective buyers were only shown by trading number (corresponding to their telephone number on the market floor), whereas the Arc can opt between the number or the corresponding name. The service offers real-time calculation of price earning ratios, dividend yields and so on, as well as foreign exchange and interest rate information and the Hang Seng index.

Company results are held in a database which is continuously updated, and the data may be extracted and manipulated to produce reports or charts.

Analysis software can examine any period from the last 15 minutes to the last year, or the middle of March 1991 to the end of June 1991 for example. One company's fortunes might be on the screen, but a click of the mouse will show the latest figures for subsidiary or derivatives based on the company.

It wasn't too long before brokers and other users recognised the advantage of having access to more information than



AFE showroom, Hong Kong

their competitors. In the last couple of years the system has really taken off, and there are currently about 8000 terminals connected at 1800 sites. As a teletext system, the network has a capacity of 10,000 pages, and users can select pages and store them to produce rolling displays, for example in a bank reception area. The user's pages of interest are stored within the computer, greatly increasing speed of access.

In 1993 Reuters, the international news agency, acquired 55% of AFE, and a news service was introduced on the network carrying stories with a relevance to Hong Kong, Taiwan and China.

The stories are cross-referenced with the stock market pages: for example the current market status of Cathay Pacific airways may show a Reuters reference. Click on the Reuters number and up comes the latest news story connected with the airline (for example they've just launched a new direct service to Toronto).

All the major international stockbrokers in Hong Kong, most local and foreign fund managers, and major institutions such as the Securities and Futures Commission, are now AFE customers, and the service continues to expand.

AFE showroom

I visited AFE's showroom in the Worldwide Plaza, central Hong Kong, and met with Scottish-born Martin Riley, managing director since he bought the company from Acorn in 1987. The various hardware options were on display, from an entry-level A3000 to the current top of the range: an A5000 with 8Mb of memory.

The system was also running on an IBM PC, since many prospective clients may already have some investment in PC hardware. Martin said that AFE software developers had tried long and hard to get SMC running in Windows on the PC, with major problems getting it to run fast enough to cope with the data.

They got there after a long struggle by pushing the system to its limits, but it runs more comfortably as a full-screen display on the PC.

With a wry smile Martin says that many customers start off insisting on MS-DOS compatibility, but having seen Risc OS in action, end up buying Acorn.

'At the high end of usage,' he says, 'where terminals are being used for market analysis, it's 95 per cent Acorn to PC. At the low end, where computers are being used as mass viewing terminals, it's the other way round.' The five per cent is represented by workhorse BBC terminals which 'just never seem to go wrong' – there's the faintest hint of irritation in Martin's voice as he says this – he'd love his customers to upgrade!

Software specification and some development has been in-house, with three companies in Cambridge and Yorkshire helping out with hardware & software development.

There's a plug-in card which handles data reception (which is now being adapted to fit the Risc PC). AFE is now developing its own Arm610-based computer which will allow up to eight interactive terminals to be run by one computer.

The AFE display is entirely Risc OS standard, with pop-up menus and so on, but it can be a bit of a shock to see these self-same menus appearing in Chinese calligraphy!

Effectively the Stock Market Channel comes in two versions, English or Chinese, as must everything on this strange island. High-resolution monitors are required for the 'Advanced Brokers Terminal' used by stockbrokers to view many pages at once.

The system is 'broadcast' over telephone lines from AFE's headquarters in a skyscraper in Connaught Road, Central Hong Kong. They have more telephone lines running into their office than the rest of the building put together (recently HK Telecom transferred part of their exchange into the building to cope with demand).

Data processing

In the office, behind a keypad entry security, Martin showed me the central data processing room. For safety all hardware is completely duplicated elsewhere as a guard against power cuts or hardware failure. The room has its own air-conditioning system – very necessary in Hong Kong's stifling tropical heat.

There are banks of computers at work: five A540s and a dozen or so A5000s. At the back is a veritable spaghetti-junction of cables leading to custom hardware to handle the information flow. It is here that the basic teletext arrives from the stock exchange via a fibre-optic video link, is digitised and distributed to SMC's clients. For 99.9999% reliability (!), customers can take a secondary routing from the back-up site to their premises.

The data is sent out at 9600 baud, but recently the sheer amount of information required an upgrade to 19,200 baud network terminating units, and AFE is looking at the next stage up, with tests on a 64K service now completed.

Outside of the processing room, AFE Hong Kong looks pretty much like an Acorn distributor anywhere: A5000s stacked high, BBC Micros in for repair. But it is also here that research and development takes place for SMC, with new services appearing monthly.

Information is now taken from the Stock Exchange, the Futures Exchange, the Dah Sing Bank, Reuters China News Service, along with AFE's Unit Trust database, warrant conversions... all piped into the control room and out to customers on The Stockmarket Channel.

AFE started as a typical Acorn distributor, but thanks to the incredible success of The Stockmarket Channel, it is now the largest of all Acorn distributors overseas. How long, we ask, before AFE will find its own stock prices quoted on its own pages?

Stop press

As of last May Martin Riley sold his remaining shares in AFE to Reuters, who is now the 70% shareholder. We wish Martin every success in new ventures.

Many thanks to Candy Wong and Howard Wan for assistance in compiling this article.

Prophet

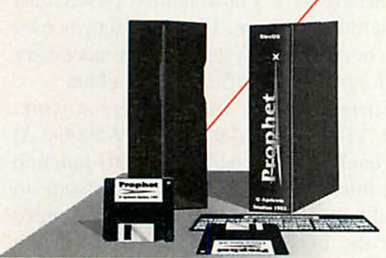
The small business accounts application for the Archimedes.

Now in its 3rd year, Prophet has received critical acclaim from all the Acorn magazines as well as its users too numerous to mention.

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Version 3 of Personal Accounts is now available

This new entirely re-written version has features not previously seen on any other personal accounts application **on any platform** including the Archimedes. **Drag and Drop** anything within Personal Accounts anywhere else. **Windows** - all window positions including their scroll bars are remembered and you also have control over which windows will be automatically opened on loading a file. The result is a completely definable desktop environment. **Relational** - the second you enter or **edit** anything in Personal Accounts all associated windows are immediately updated - imagine entering a payment from your bank account to a credit card account and seeing **both** account totals change as you type, or entering a cash payment for petrol and seeing your cash balance being debited as your petrol account goes up - this is so intuitive you will find it hard to make mistakes, but if you do, correcting the error is as simple as placing the cursor in the entry and editing it. **Memory** - even a file with thousands of entries will run on a standard 1mb machine. Personal Accounts V3 also has **full Undo and Redo** facilities. You can undo everything right back to day one and then redo it right back to your last key press. With **automatic standing orders** and an **automatic forecast** feature, **Personal Accounts is a must!**

Personal Accounts V3 costs just £49.95 inclusive of postage and VAT. **Owners of Version 2 can upgrade to the full package for only £29.95 inclusive of postage and VAT.**

The current version of Prophet (V1.38) has a myriad of extra features based on user feedback and this combined with our policy of **free upgrades** ensure that Prophet will always remain the number one choice for small business accounts software on the Archimedes. There are over 600 Prophet users which include Acorn dealers such as: 4Mation, EFF, Stallion, Spacetech, Davyn, Arm-Tech, Topologika.....



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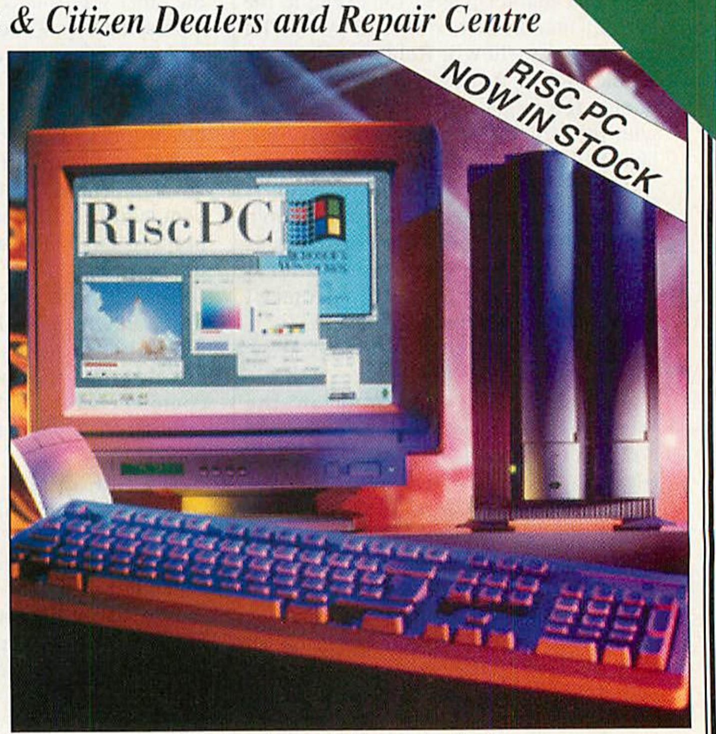
A3000 1 Mb (expandable to 4 Mb)	£55.28	£64.95
A3000 4 Mb	£119.11	£139.95
A3010 1 Mb	£33.19	£39.00
A3010 4 Mb	£131.87	£154.95
A5000 4 Mb	£93.57	£109.95
A310/305 4 Mb (including fitting & carriage)	£170.17	£199.95

MISCELLANEOUS

ARM 3	£119.11	£139.95
Risc OS 3.1	£76.55	£89.95

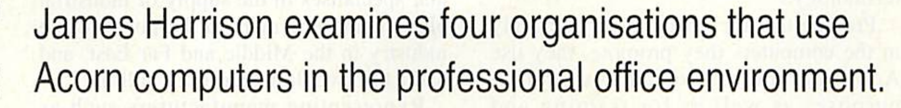
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Part Exchange Scheme Available

It's the business


James Harrison examines four organisations that use Acorn computers in the professional office environment.

Acorn computers invading the traditionally PC-dominated office? 'You must be kidding,' I hear you say. I'm not.

When I started doing research for this article I was sceptical that I would find more than a handful of companies outside the Acorn community using Acorn systems on a day-to-day basis in the office.

However, a few phone calls later to various Acorn software publishers and I was armed to the teeth with a list of over 40 companies, telephone numbers and contact people around the country.

My scepticism rapidly turned to amazement as I listened to company director after company employee extolling the virtues of Acorn computers as office productivity tools.

As it is physically impossible to detail the uses that 40 companies put their computers to in two pages, I have singled out four organisations which I believe best demonstrate how and why Acorn systems are increasing in popularity as office computers.

Good Directions Ltd

Next time you're walking through Leicester Square Tube Station, keep an eye and an ear open for the clock near the ticket office. It was designed and built by a Southampton-based company called Good Directions Ltd.

This company doesn't make ordinary kitchen-type wall clocks. It makes big clocks – up to 8ft and larger in diameter – for big buildings, both in Britain and around the globe.

Good Directions is a rare example of a company that decided to use Acorn computers on merit; not because any staff members had knowledge of the system and promoted them inside the company.

According to Kevin Markwick-Day, three years ago no-one in the company had ever used an Acorn computer before. The MD's and staff's only exposure to Acorn systems had been through their children who used them at school.

The company was looking for replacements for several dated PCs, and the director scouted around PC and Macintosh dealers in search of a suitable system. A local Acorn dealer hooked him in the end when the director discovered that Acorn computers were 'better than anything else around.'

Today Good Directions has seven networked A5000s and an A4 laptop. All company management and administration is done on these computers, from correspondence to accounting, book keeping to database management.

Extensive customer, supplier, product and inquiry details are managed using Iota's *DataPower* – a package which Kevin says they are, 'over the moon' about.


Big time workings with Good Directions

Quantec Plastics Ltd

Based in Bridgewater, Somerset, Quantec Plastics is the UK representative for the American company Davis-Standard, the largest supplier of blown film and extrusion machinery in the States.

This equipment is bought by many UK companies for the manufacture of everything from plastic carrier bags to major industrial products.

With two staff and one A440, the company uses *DataPower* and *Impression Publisher* for everything but the company accounts, which are still PC-managed.

Five years ago when Mike Tillbrook joined the company he discovered it was using an Apricot computer.

He introduced his partner to his own

computer, an A410, and managed to convince him in short order that the machine was capable of doing everything that they wanted. I asked Mike how they found Acorn companies in terms of service and support, and he had nothing but praise.

In the several years he's been using Acorn systems, he's had no need for any hardware support, and he believes that the support from companies such as Computer Concepts and Iota is better than anything you'd get in the PC market.

So why don't they use Acorn systems for their accounting as well? Mike says that he does hope to move the company onto an Acorn accounting package quite soon, but he hasn't yet found an Acorn package that quite fits the bill.

Stockport MBC

Stockport Metropolitan Borough Council's IT Curriculum Development Unit, run by Mike Partridge, comprises eight staff who provide support and guidance to educational institutions on how to make the most of new technology.

Proving that they believe very strongly in the computers they promote, they use Acorn computers for administrative purposes as well as for training and demonstrations.

Of their 32 Archimedes and A3000s, three have been set aside with *DataPower*, *Impression Publisher* and *Style* for handling all their database and word processing requirements.

The department uses Acorn computers for historical reasons, and according to Mike they have never had any reason to change to PCs or Macs.

I asked Mike what his response was to the popular 'anti-Acorn-in-schools' myth that teaching children using Acorn computers places them at a disadvantage when they move into the real world, and he offered his unit as an example of why it is just a myth.

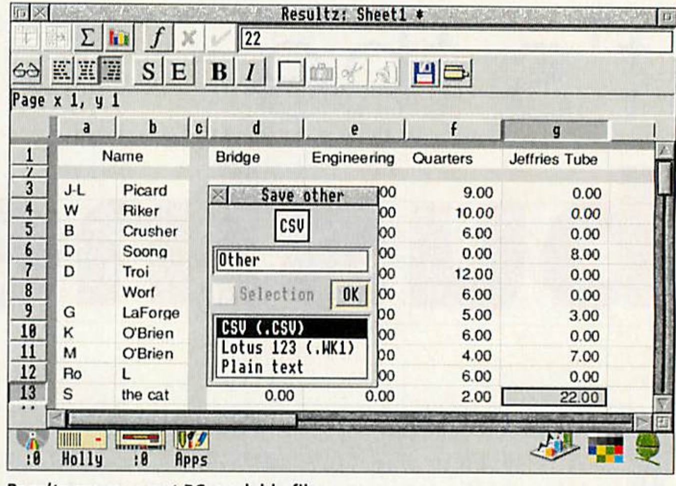
All eight staff in the department have come from PC backgrounds, and have found it incredibly easy to adapt to the Risc OS environment from Windows on the PC.

He believes very strongly in the transferability of skills; if you can use a DTP package on one type of computer platform, you can move to any other DTP program on any other platform with the minimum of retraining. After all, if you learn to drive in a Mini, it doesn't mean that you won't be able to drive a BMW as well.

Why then do so many people stick doggedly to the same computer system instead of moving onto better technology? According to Mike, it's all down to what systems you feel most at ease with.

If you've been using *Lotus 123* on a PC for many years, it is unlikely you are going to consider changing to another platform and style of software when it comes to upgrading. You'll try to upgrade with the minimum of inconvenience.

There is a restricting factor, says Mike, which is that no matter how good the hardware, if the software doesn't deliver the goods you might as well scrap the entire system.



Resultz can save out PC-readable files

Monteagle Polymers and Petrochemicals Ltd

Situated in Yateley, Hampshire, Monteagle Polymers bears several similarities to Quantec Plastics.

It is a small family-run export company that specialises in the supply of industrial plastics and polymers to the power cable industry in the Middle and Far East, and had a turnover last year of £2 million.

Representing manufacturers such as GEC, the company has two Acorn systems – an A5000 and an A4 – and will soon be upgrading to a Risc PC.

According to father Peter Tipton, the company makes extensive use of Acorn software: Digital Services' *Squirrel* for their customer, product and supplier databases, Longman Logotron's *PinPoint* for market research, *Prophet* for their accounts, Colton's *PipeDream 4* and *Fireworkz* satisfy all their spreadsheet requirements, and they're currently evaluating Circle Software's *Impact Pro* and Longman Logotron's *S-Base 2*.

Both Peter and his son John travel abroad on a regular basis visiting existing and potential clients.

They used to take the A4 replete with all the software on these trips. Nowadays, Peter takes his Pocket Book and John his Psion 3A.

All product information that they'll need with them is downloaded onto the Pocket Book and Psion from the A5000 before departure, and as a final step, Peter saves their product database as a CSV file onto a DOS disc and sticks it in his pocket.

No matter what company they're visiting in whatever corner of the world, there will always be a PC somewhere around.

If they need to create an invoice or quote, they can simply stick the Acorn-formatted DOS disc in the PC, load the Acorn-saved CSV file into a PC spreadsheet or word processor, and create the relevant documentation with the minimum of hassle.

Peter finished off by saying, 'As a small company, we wanted one computer that could do everything. Acorn provided that computer.'

Summary

In writing this article, some interesting points have come to light. Here's a quick summary:

1. Almost all companies that use Acorn systems in the office do so for historical reasons, either because they grew up with the BBC micro and have remained loyal to Acorn throughout, or because new Acorn-owning employees have introduced them into the office and won over the hearts, minds and wallets of their employers.
2. While most of the companies interviewed use Acorn systems for database management, word processing and project management, very few of them use Risc OS-based accounting packages, preferring to stick with the heavyweight PC programs such as *Sage*.
3. The most common criticism: Too many of the so-called 'professional' applications still look and feel like they belong in the classroom.
4. There was praise all round for the support and service provided by Acorn, its dealers and the software and hardware developers, with comments such as 'better than anything you'd get in the PC market' being the rule rather than the exception.
5. The most salient point that came out of all the interviews is that although most Acorn applications don't provide anywhere near the same number of facilities offered by their PC counterparts, not one of the company representatives I spoke to felt that their company was in any way disadvantaged by this. Acorn software costs a lot less than the equivalent PC software, is easier to use and is much easier to learn. As a result, not one of the companies had any desire to use PCs again.

Quality control

Lucas Rists is a division of the manufacturing giant Lucas Industries which, despite the recession, has seen a steady increase in the profits made by their automotive, aerospace and applied technology arms.

Lucas Automotive produces power-train, chassis and electrical systems as well as electronic components and providing parts and technical support for after-market customers. BMW, General Motors, Jaguar and Volkswagen are just some of their many clients.

The Lucas Wiring Companies, comprising Lucas SEI Wiring Systems Ltd and Lucas Rists Wiring Systems, is the part of the group which provides electrical systems for motor cars.

These are delivered as complete systems known as wiring harnesses. A typical harness contains up to 1000 individual wires with a total length often in excess of a mile.

These systems must function reliably in extreme environments and under severe electrical conditions, so they must be manufactured to exacting specifications.

Different harnesses are required for every different variant of the same model of car, resulting in a great many different designs, chosen according to factors such as the feature content and production volume of the vehicle in question.

With several thousand components in a typical assembly, it is essential that all are connected together correctly and reliably. The harnesses therefore need to be tested rigorously to make sure that they meet their specifications.

With simple test equipment this would be a very time consuming process. Lucas Rists was keen to make this process as efficient as possible, so it began to develop a new generation electrical system in the mid 1980s to allow more control over the test procedures and the preparation of harness test data.

Just in time

Lucas Rists operates using many Japanese working practices, one of which is JIT or Just In Time manufacturing. This means that products are manufactured as close as possible to their delivery date in order to minimise storage costs and the amount of capital that is tied up in undelivered products.

The effect of this is frequent changeovers between models on the company's production lines. It quickly became obvious that to make the most of its new test systems, it would require a means of quickly and reliably distributing data to the various testing sites throughout the factory. Unable to find a proprietary cost-effective solution to this requirement, the decision was taken to produce a system in-house. The then new field of Risc technology was chosen for its high speed which, it was hoped, could minimise the amount of down-time during changeovers.

Trials showed that Acorn's Archimedes A305 provided a competitively priced, fast platform for which Lucas could develop software easily.

The company was sufficiently impressed by it to choose it as the machine with which to develop the test data distribution system and since then, many other manufacturing and design systems have been developed on Acorn computers.

These systems have all been developed by a tiny department, situated on Lucas Rists' Newcastle-under-Lyme site, known as The Special Projects Group.

Robin, the group's manager, says: 'We found that the more development we undertook, the more potential we found for new projects.'

Since then the Group has worked its way through the entire range of Acorn machines. According to Robin, 'Each new machine has allowed us to consider more adventurous projects as they become faster and more capable.'

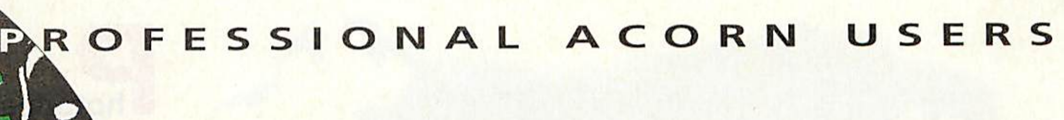
The Special Projects Group consists of just five members, with skills ranging from hardware design and assembly language through to C software development.

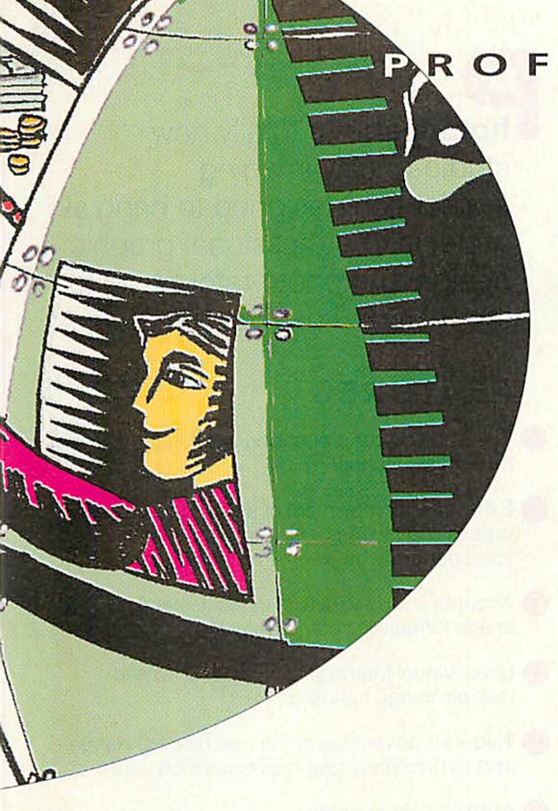
None of them are Acorn diehards – they would be happy with any high performance system that affords ease of development and ease of use.

Acorn systems currently fulfil these conditions. 'It is not a question of being committed to Acorn computers per se,' says Robin, 'merely one of being



The Newcastle-Under-Lyme Site of Lucas Rists





committed to a system which allows us to develop facilities which provide us with a commercial advantage.'

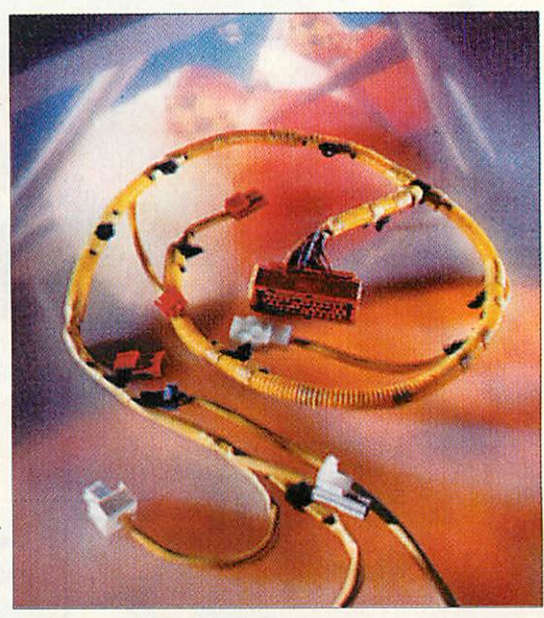
There are around 50 Acorn computers being used on Lucas Wiring Companies sites in the UK – a drop in the ocean compared to the number of PC compatibles used on the same sites.

Acorn computers are used almost exclusively to support systems that have been developed in-house, though the increase in the quality and quantity of off-the-shelf software for Acorn computers has facilitated the use of bought-in software packages where Acorns are already in use. A large number of CAD programs have been developed to allow Lucas to interface better with its customers and to allow its engineers to extract test data and manufacturing information from its customers' own CAD files.

All of the in-house software is fully multi-tasking within Risc OS and benefits from the consistent GUI presented to the end users. Since harness design is done in partnership with clients, the end users are often customers who have no experience with the systems.

The intuitive nature of the software reduces training requirements, and means that further software issues can be learnt easily once the GUI is understood.

A general rule of thumb for our end users is to 'point and prod'. If the software and surrounding system has been well designed, the next operation the user is expected to perform will be presented logically in terms of sequence, and pictorially by the use of self-explanatory icons.



One of Lucas Rists' wiring harnesses

Robin's enthusiasm for the products of his department is obvious – not surprising as they all meet his criteria for good design.

Some of the most recent work by the group has been the development of programs to monitor the efficiency of machines in the manufacturing departments. Access to and control of the machines is provided by another development from the Special Project Group allowing the current status of a manufacturing area to be reviewed at a glance and will automate the normally time-consuming work of creating production reports.

They are also currently designing programs in conjunction with their Engineering department to assist in the design for manufacture of harnesses.

Lucas Rists needed a proprietary computer system to control their test procedures, and turned to Acorn. Tony Patterson investigates



Harnesses being assembled on the production line

Six-figure savings

The projects which we have developed on Acorn computers have resulted in annual six figure savings which cannot be ignored,' says Robin. 'It might be argued that these systems could have been developed on any machine platform, to which we say, "well why weren't they?"'

The Group's success has ensured that there is always a long list of projects waiting to be worked on. 'Team members are encouraged to use their imagination to the full to define a solution to a problem, and more frequently than not we recognise and define the problem as well. The impossible we do tomorrow; the completely unknown takes a little longer.'

It all adds up to what sounds like an ideal job for any one of the large community of Acorn programming enthusiasts. But Robin was surprised when, last year, he placed an advert in four of the main Acorn magazines for a new programmer.

'Despite the national distribution of these magazines, I received only four responses. I had thought that developing software on the Risc OS platform with access to all the related facilities which we have would be a dream come true for many Acorn enthusiasts.

They probably work harder on their own machines at home, but don't get paid for it.'

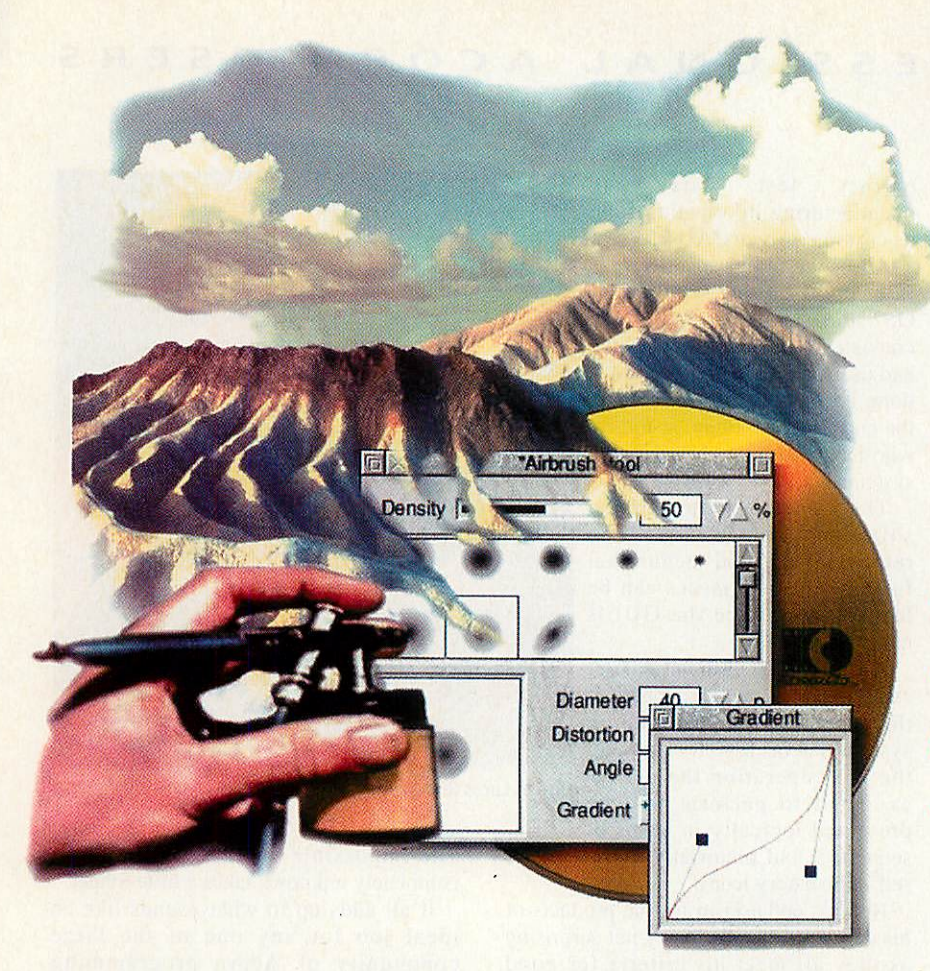
So what direction does he think Acorn should be taking in the business market? 'Acorn provides the first class hardware facilities necessary to produce first class systems.

To a certain extent, it is up to third-party software developers to ensure that their own software allows easy translation to and from "industry standard" software on other platforms, making it easier to introduce Acorn computers to a business environment,' explains Robin.

'Although the Risc PC is a very impressive machine, I think Acorn needs to be aware that its pricing and discounting strategy to business users is gradually eroding the cost-benefits of specifying Acorn computers.

'I see little more that Acorn can do to promote itselfin business. The capabilities of the range of Risc PCs need to be seen to be believed.

'I don't think that any serious developer should be without one, although we must bear in mind that non-Risc PC systems will be around and deserve support for a long time to come,' says Robin.



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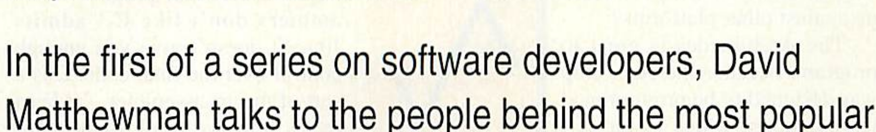
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I wrote that...



In the first of a series on software developers, David Matthewman talks to the people behind the most popular Archimedes vector graphics package, ArtWorks

'It was originally going to be called *Top Draw* and we were going to write it in six weeks,' says Jim. 'I'm sure that this was serious. The idea was that everyone would go off and write their individual modules, and they'd all fit together.

'In fact, after six weeks we hadn't even written the framework for the modules to slot into. That was dispiriting – working on the bare bones of the program, when you can't really see the results of your work because your code doesn't actually *do* anything.'

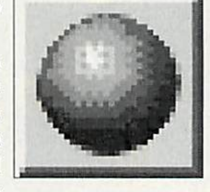
'The name *ArtWorks* – with the obligatory capital letter in the middle – was a brainwave that came to me in the middle of the night,' adds Phil. 'The worst part was when we put all the modules together for the first time and it didn't work; tracking down bugs was a nightmare.'

Phil Martin and Jim Lynn are in charge of the team that developed *ArtWorks* at CC. *ArtWorks* was written as the next logical product after *Impression*.

'We needed a program which would complement *Impression*. Spreadsheets and databases don't really fit with a DTP package, and the Arc wasn't really up to doing professional bitmap graphics.

'A vector graphics package was the obvious choice. Originally it was going to be *Draw* with a better user interface, but we got more ambitious. In the end we took *Freehand* as a benchmark.'

It is part of the Acorn folklore that Computer Concepts' programmers write in Arm code. Do they use an in-house Assembler?



'Actually, *ArtWorks* was written on the BBC Basic Assembler. It's fast, you can write macros and best of all you can use Basic functions like **SIN** and **COS**. This makes building up look-up tables very easy when compared with other Assemblers.'

The *ArtWorks* code isn't assembled in one go. Modules are assembled individually and linked together using a proprietary linker. 'I wrote the linker back in the days when we were writing *Impulse*,' Phil reveals. '*Impulse* would have been great if we'd finished it – there were things in the spec for it which are only just starting to appear in modern operating systems. It was stopped by Risc OS which took away our market. Anyway, a lot did come out of it, including the linker.'

There were a number of ideas in *ArtWorks* which didn't make it into the final package – proper clipping so that you can put one object inside another, an isometric grid and a bitmap painting package to name just a few – so what aspect of *ArtWorks* caused the most headaches? 'Probably the user interface,' Phil concludes, 'It's always the user interface which takes the time.'

'Multiple levels of undo – that's complicated,' ventures Jim. 'You have to write code to do an operation, code to undo it and code to redo it, and they're all different operations.

'It's where bugs creep in unnoticed; you do a multi-level undo and redo, and suddenly one line comes out in the wrong colour. It's the sort of bug that's very hard to track down, even when you know there's a problem there. You'd like to be able to just look through the code and spot the bug, but of course you can't.

'Programmers are the worst people at testing their own code, because they know what it can do. Other people try to make it do five different things that would never occur to the programmer to try. *ArtWorks* did have a very long beta test phase, which helped.'

The modular nature of *ArtWorks* is a much vaunted feature, the idea initially being that other people could write modules which could be 'slotted in'.

'We did the software developers' kit, which is nine discs of highly compressed code and documentation,' Phil explains. 'It has most of the *ArtWorks* source code on there, really as an example of how to write modules.

'We were worried that everyone would turn round and say "but this is really easy!", but in fact everyone thought that writing modules was much too hard. This was an ego boost for us, but it did mean that other modules didn't get written until recently.'

People frequently describe *ArtWorks* as 'object oriented', although in fact there are four critera for something to be object oriented, and *ArtWorks* only satisfies one of those.

The main program shell handles events such as mouse clicks, and passes them on to whatever the currently selected tool is.

If this is one of the drawing tools, it will draw something; if it is something like the re-size tool it will in turn pass information to another tool – whatever was used to create the currently selected object.

However, the program shell does not need to know anything about the tool to which it is passing information. The

action performed by that tool is handled entirely by the tool, or by other tools to which it passes information.

The structure is like an inverted tree, with the program shell at the top passing information downwards.

The information may pass through and be modified by many tools until something is drawn on the screen.

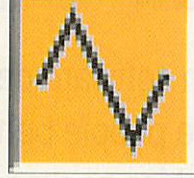
The *ArtWorks* team designed the user interface themselves – each person working on a tool would design the interface for it. Jim and Phil provided overall guidance to ensure consistency, but trusted their team to come up with good ideas.

'That's one of the strengths of this company,' claims Jim. 'A lot of the ideas are generated by the individual people working on a project – it's a good creative environment to work in.'

'We put a lot of thought into issues like the behaviour of the mouse,' Phil explains. 'For instance, you draw circles and rectangles by dragging rather than with two clicks. If you draw a circle by using two clicks, there's a confusing period between the clicks where the mouse's behaviour is different, which is hidden to the user.

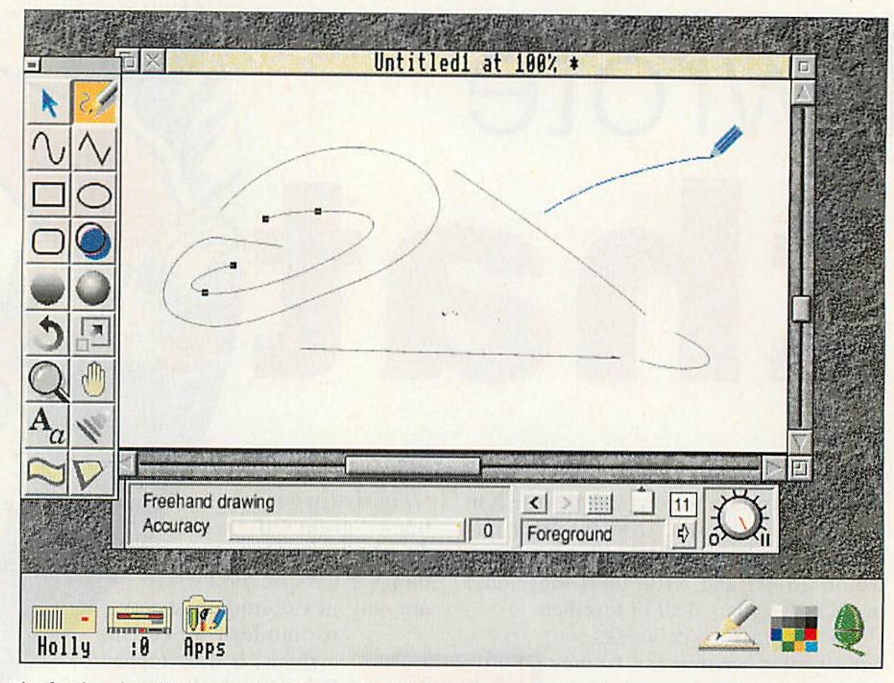
'When you're drawing lines in *Draw*, you get this horrible line following the mouse around which you can't get rid of. We avoided that problem, but we did get complaints that the behaviour was different from *Draw*.'

As a machine to program on, how does the Archimedes stand up against other platforms?



'The Archimedes is great to program, because the Arm chip was designed to be programmed in Assembler, which as far as I can see is not true of the Power PC. Also, it has a very good version of Basic in Rom, which isn't applauded as much as it should be. Basic is great for writing small applications.





The freehand tool in *Artworks* which took many iterations to get working properly

'Any windows environment is difficult to program. We've looked at the Power PC chip, of course, but because we write in Assembler, our code is hard to port.'

Would they consider writing in a more portable language? 'Assembler programmers don't like C,' admits Jim, 'it doesn't give you enough control over the final code. C is a sort of macro-assembler – at least that's how we think of it – but you don't have the fine control that you have in Assembler.'

What was the most satisfying aspect of programming *ArtWorks*? 'Writing huge routines that *work*,' says Jim. 'Designing long logical systems when you just *know* that you've done it the right way,' adds Phil.

'We put a lot of work into the freehand tool in *ArtWorks*,' Jim explains. 'The early version which was demonstrated at the October 1991 show didn't even fit curves. We took a lot of iterations to get it right, and stop it producing "spikes".

'That was satisfying, but what was even better was using the freehand tool in *Corel Draw* and seeing the same glitches *ArtWorks* used to have, before we programmed them out.'

That's progress

Jim Lynn went straight from school to university, where he read Computer Science. Unfortunately, they required him to do Economics as part of the course to which Jim had 'certain moral objections', which caused him to fail the exams.

This forced him to take a year out, during which he got a job at CC. He enjoyed it so much that he stayed and is now CC's longest-serving technical employee. He will have been there for ten years in October.

Phil Martin's sixth form had just about discovered computers – he used to make punched cards and send them off to be run on a mainframe, which brings a new meaning to compile-time. He took a year out to stay at home and build spacecraft, went to the University of Essex to read Microprocessor and Systems Engineering, and returned home to build more spacecraft.

His dad randomly bought a magazine in which CC was recruiting. His first work at CC was on the Atari, which he claims was 'the bees knees in those days – 68000 processor and 32-bit registers'.



Jim Lynn (left) and Phil Martin

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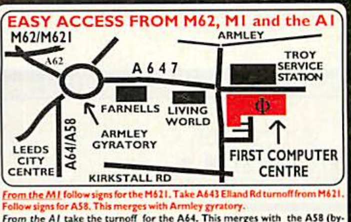
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new inkjet printer with built in auto sheet feeder

EPSON
Epson LX300 Colour £125.81
9 Pin 80 colomn colour
LQ150 Colour £178.25
24 Pin Draft 216cps, LQ79cps
Stylus 800 + ...£212.75
48 Nozzle inkjet 360 x 360 dpi (max) 100 sheet feeder
Stylus Color £424.68
Colour Inkjet, 360 x 360 dpi, 720 x 720 (on special paper)

HEWLETT PACKARD
HP 310 Portable..................£195.74
NEW! HP520 Mono.............£212.76
HP 500 Colour.....................£293.61
NEW! HP 560 Colour..........£412.76
even faster than the HP550C!! All HP printers come with a 3 year warranty

THE star COMPUTER PRINTERS
StarLC100 colour..............£102.12
9 pin colour, 8 fonts, 180 cps draft, 45 cps NLQ
StarLC24-100.....................£108.08
Star LC24-30 Col.................£170.20
Star LC24-300 Col...............£212.76
24 pin quality, 210 cps draft, 67 cps LQ, 39/48K buffer, 10 fonts & quiet mode
Star SJ144 Colour Thermal........£289.35
Stunning affordable colour printer. 3 PPM, low running costs

GRAPHICS & VIDEO

Rombo VIDI Arc £70.00
HCCS Vision 24 Colour Digitiser#......£95.00
HCCS 508 Line Vision 24# £133.50
#For A3000 external add £13.00
Scanlight Video(WildVision).....£199.00
Wild Vision Chroma Genlock..........£229.00
Hama Tri-Lock Genlock.....£276.60
Colour Card Gold £232.00
Eagle M2 24 bit Multimedia Interface ..£320.00
TV Buddy TV Tuner £87.00
TV Buddy with Teletext.............£156.00

MISCELLANEOUS

Risc PC 2 Slot Multipodule.....£39.00
A3000 3 Slot & User Port.....£38.00
A3010 2 Slot & User Port.....£41.70
A3020/A4000 3 Slot & User Port.....£38.00
A5000 2 Slot Multipodule.....£39.00
PSU Kit.....£49.00
RiscOS 3.1 Upgrade £74.04
RiscOS 3.1 Upgrade Only - no Manuals.£38.30
Special Bulk prices for Educational Sales
Requires RiscOs 3.1 or above.
Acorn Original Mouse.....£29.78
Mouse Mat £3.40
Dust Cover A3000 Keyboard.....£4.25
Dust Cover A3010 Keyboard.....£5.10
Dust Cover AKF12/17/30/40.....£5.95
Seal 'n' Type Keyboard Cover £12.76
10 Capacity Disk Box £0.84
50 Capacity Disk Box £3.40
100 Capacity Disk Box £4.67

3.5" DISKS

QTY	Bulk DD without labels	Bulk HD without labels
10	£3.82	£5.40
50	£17.86	£25.56
100	£32.33	£49.32
200	£59.57	£96.64

Labels available - 50 @ £0.85 100 @ £1.70 500 @ £5.95 1000 @ £8.50

QTY	Branded DD with labels	Branded HD with labels
10	£4.67	£8.00
50	£19.57	£39.00
100	£36.59	£76.00
200	£68.08	£134.00

PRINTER CONSUMABLES

RIBBONS
Citizen Swift mono ribbon.....£4.25
Citizen Swift Colour ribbon.....£11.91
Star LC100 mono.....£3.14
Star LC200 mono.....£4.25
Star LC100 colour.....£6.80
Star LC200 colour.....£11.00
Star LC24-30 mono.....£7.65
Star LC24-30/200 Colour.....£10.20
Re-Ink Spray for mono ribbons.....£10.20

COVERS
Star LC10/20 cover.....£4.25
Citizen Swift/ABC.....£5.10
HP 500/550/510 .....£5.10
Star LC24-300/30/100/200.............£5.10

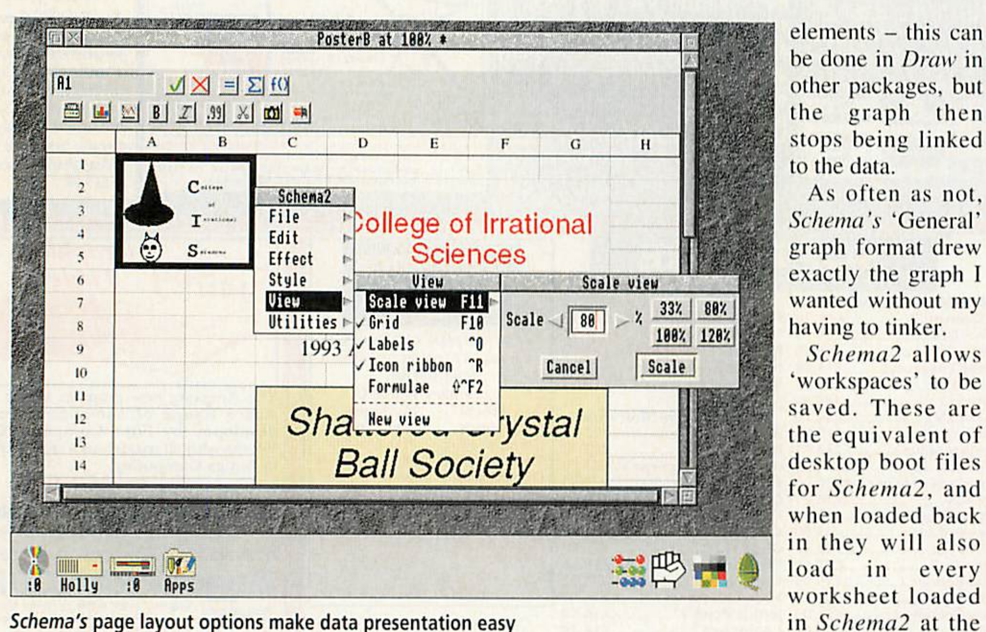
PAPER (fanfold or single sheet)
prices apply only when ordered with printer or purchased direct from the showroom
1000 sheets...£7.65
2000 sheets.£15.31
Delivery for 2000 sheets £4.26 when purchased without printer

Printer Stands (Universal) only £4.25

PREMIER Ink Refills
save a fortune in running costs with your ink/bubble jet. Compatible with HP, Canon , Star, Citizen & many others.
single refills (22ml).....£5.95
Twin refills (44ml).....£11.06
Three colour kit (66ml).....£17.00
Full colour kit (88ml).....£23.82
Bulk refills (125ml).....£21.27

Cartridges
Canon BJ10 cartridge.....£16.16
Double life 500 cartridges.....£23.82
HP550/500 Colour cartridge.....£23.82
Star SJ48 cartridge.....£16.16
Star SJ144 cartridge (pack of 3).....£36.59
Star SJ144 mono or colour (3 pack).....£14.46

Miscellaneous
Printer Switch Box 2 way.....£11.06
Printer Switch Box 3 way.....£17.00
3 Metre printer cable.....£5.95
5 Metre printer cable.....£7.65
10 metre printer cable.....£11.06



Schema's page layout options make data presentation easy

Since a computer is basically a glorified adding machine, spreadsheets should be easy to write, small and simple to use. Right?

Wrong. The main problem is that different people want spreadsheets to do different things. One person will want to do her accounts on it, another will use it as a mini-database, a third will plot data, and all three will want a well-presented printout of their work.

The recent release of *Schema2* brings a new spreadsheet with a powerful macro language to the scene.

Developed from the spreadsheet provided with Acorn's integrated package *Advance*, *Schema2* retains the ability to pass data to other applications in the suite using the clipboard – this includes *Style, Publisher* and *DataPower*.

The problem for a reviewer when comparing spreadsheets is that they all have much the same features. Like other spreadsheets, *Schema2* will let you enter formulae in cells and has a host of pre-defined functions, from familiar ones such as SUM() and MAX() to more specialised ones like PMT() which will calculate repayments on a loan.

As well as its own files, *Schema2* will load and save TSV, CSV and WK1 files, the latter being vital as it is a standard format for spreadsheets on other platforms.

Originally a *Lotus1-2-3* format, it is understood by other spreadsheets such as *Excel*.

Draw files can also be loaded into individual cells in *Schema2*. This is aided by *Schema2's* 'Big cell' option.

Using this you can select a group of cells in the spreadsheet and make them into a single, big cell, which has the number of the top-left cell of the original group.

A 'Big cell' can be as large as the spreadsheet if necessary, and any graph dropped into such a cell from *Schema2* if automatically 'hotlinked' to its data. If the data is updated, so is the graph.

Schema2's graphing options are generally excellent, and produce pleasant-looking, sensibly-scaled graphs.

The ability to change the options that *Schema2* has chosen for the graph aren't as extensive as they could be, especially for the axes, but this is a minor gripe.

The graphs can easily be annotated with text and *Draw* elements – this can be done in *Draw* in other packages, but the graph then stops being linked to the data.

As often as not, *Schema's* 'General' graph format drew exactly the graph I wanted without my having to tinker.

Schema2 allows 'workspaces' to be saved. These are the equivalent of desktop boot files for *Schema2*, and when loaded back in they will also load in every worksheet loaded in *Schema2* at the time they were saved.

They will also load in any macros which were in use at the time, and are very convenient if you have a large number of linked worksheets.

Printing is easy, and page borders can be marked on the spreadsheet by darker lines. Draft printing is supported, using a standard ASCII image of the spreadsheet to produce a quick print.

Customising Schema

When I first started using *Schema2*, I was annoyed by the lack of a save button on the tool bar – the icons on the tool bar are annoyingly small and fiddly in any case.

This was before I discovered that *Schema2* is a techie's dream; you can customise just about anything. To do this, you need to edit files within the application, but the manual is helpful enough so that a competent Risc OS user should have no problems, and you are warned to take a backup before trying anything. By altering files, you can change the tools on the tool bar, the menu items in any of the menus and all the hotkeys. You can also add more *Draw* files to the graphing directory for use in your pictograms.

Macros can be entered in two ways. They can be recorded by using an option on the icon bar, or they can be written directly using the macro editor supplied as a separate application with *Schema2*.

Schema2 macros are very powerful, and are what distinguish it most clearly from its competitors. They allow *Schema2* mini-applications to be written, which can be run by the user by running a workspace file.

To write macros using the macro editor, you will need to have the macro manual which Clares' will supply on request to registered users.

Macros are written in a Basic-like language, which is fairly easy to learn and use, although a keyword index in the manual would be a great help here.

By using macros, *Schema2* can be extended impressively to include features that the original program writers never even considered.

However, given the range of functions and graph options offered by *Schema2* already, you would need to be a specialist user to want to do this.

Resultz

Resultz from Colton is the spreadsheet part of the integrated package *Fireworkz*. It comes in a strikingly packaged fluorescent orange and green box, and is the most

Comparison of the spreadsheets with a large file

	Schema2	Resultz	Eureka	Excel 3
App size	896K	896K	1152K	400k
File size in memory	896K	896K	1120k	400k
File size on disc	828K	695K	840K	773k
Time to load file	62s	140s	42s	19s
Time to plot 300pts	4s	2s	4s	2s
Max no of pts plottable	8000	800	2000	4000

The Scheme of things

Schema, Clares' powerful spreadsheet, has been updated. David Matthewman compares it with the opposition

user-friendly of the spreadsheets reviewed here. All have good manuals, but *Resultz's* stand out, with an especially good tutorial section.

There are a number of touches which make the program pleasant to use, with the 'interactive help' on the tool bar perhaps the most obvious.

When a cell is highlighted, the row and column headings 'slab in' to tell you at a glance which cell it is, and when entering formulae the elements of the formula are highlighted and can be replaced individually.

Arrays can be grouped over a range of cells – as in other spreadsheets – but they can also be held and manipulated in a single cell.

Resultz's graphing capabilities are good, allowing more control over some aspects of the graph than *Schema2*, although overall I prefer *Schema2's* graphs.

As part of the *Fireworkz* package, *Resultz* integrates with *Wordz* beautifully, far better than the *Advance* suite, and there are many word processing-related features in *Resultz*, like the WYSIWYG pages.

Eureka 2

Eureka 2, Longman Logotron's visually different spreadsheet, looks and feels like Microsoft's *Excel*, to the extent that users of one have no problem switching to the other. It will also save files in both WK1 and WK2 format. This has clear advantages in an office where both programs are in use. *Eureka 2* is fast and powerful, though probably the least user-friendly of the three spreadsheets.

It has a large range of inbuilt functions, and its graphs are easier to change once drawn than with the other spreadsheets.

A severe test

I have a file left over from the days when I used to do neutron diffraction, which is a huge stress-strain graph with 15,000 points.

I never found anything on the Archimedes which would touch it, although *Kaleidagraph* on the Mac had no problems – mind you, this was on an 8Mb LC.

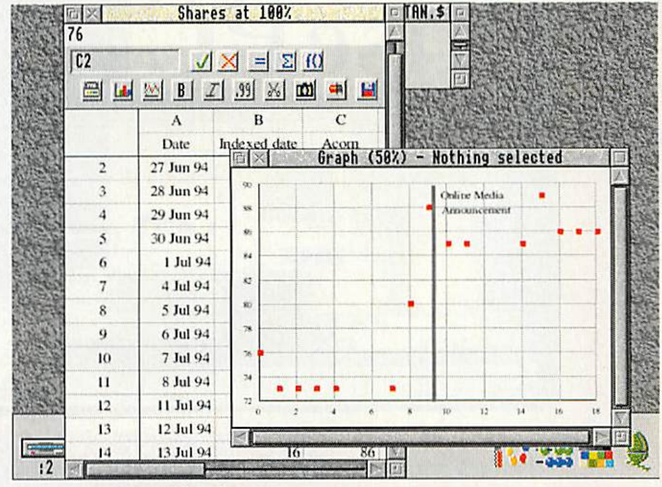
I decided to feed it to all three applications, just to see how they would cope and the results are given in the table and compared *Excel 3* on the Mac.

The operations were all performed on my A440, with and Arm3 upgrade.

To be fair to the programs, what I was asking them to do was somewhat unreasonable, but it is interesting to compare how they performed when pushed to the limit.

None of the programs was slowed down appreciably by having such a large file to cope with.

None of them would do any calculations on the data because of memory problems, and *Schema2* made the best attempt at plotting the data, largely through making sensible choices about such things as axis intervals.



Happy graphing with *Schema2*

How does Schema2 compare?

With *Schema2*, Clares has produced a package that will appeal to users wanting a powerful spreadsheet that can be tailored to their needs.

The macro language is suited to programmers, but anyone who has used BBC Basic should be able to cope.

The production of complete printed presentations from data is helped by the ability to embed graphics inside 'Big cells' and the text formatting options.

Resultz has the edge over *Schema2* on the user interface, and is certainly as good at presenting data, particularly when viewed as a part of the *Fireworkz* integrated package.

It is not as expandable as *Schema2*, but has enough functions and options to satisfy most users. Of all the three programs, *Resultz* coped most sensibly when pushed to the limits of its memory.

Anyone working in an environment where there are a number of non-Acorn machines should look seriously at *Eureka 2*, which has strong similarities to *Excel* and the best import/export options of the three.

On the other hand, with *Fireworkz for Windows* now being available, such users should think about standardising on this. *Eureka 2* is fast, has a large range of functions and does the job.

Clearly our readers are impressed with it, since it was a runner-up in the 'Best business software' category of the *Acorn User* Awards.

However, whether it can compete with *Schema2*, the

Product Details

Product	Supplier	Tel	Price
Schema 2	Clares	(0606) 48511	£114.89 + VAT
Resultz	Colton	(0223) 311881	£79 + VAT
Eureka 2	Longman Logotron	(0223) 425558	£119 + VAT

Font control

David Matthewman compares two methods of tidying up the fonts on your computer

In the beginning...
...was Acorn's font manager. And the users looked at Acorn's font manager, and saw the anti-aliased scaleable outline fonts and saw that this was good.

Then the users tried to use Risc OS 2's *Edit* with a large number of fonts loaded, and saw that this was not so good. They twiddled their thumbs while the multitude of fonts on their machine were booted up, and they were sorely troubled.

They tried deleting some of the more obscure fonts from their hard disc. And *Impression* said unto them 'I have rendered your entire document in Trinity.Boring font.'

The users cried unto the software houses, saying 'Will no one write a better font manager?' And Lo! Fabis Computing and LOOKsystems heard their cries, and their prayers were answered...

Easy Font

Easy Font from Fabis Computing replaces the *!Fonts* directory on your hard disc, storing all the fonts internally in a directory structure similar to that in the *!Fonts* directory. To move the fonts to the *Easy Font* directory, they must be dragged to its icon on the icon bar.

Once this has been done, your original *!Fonts* directory can be deleted or at least backed up to floppy. *Easy Font* will then let you install individual font families, making them available to applications. The extra fonts will appear on the font menu of most applications without needing to reload the program.

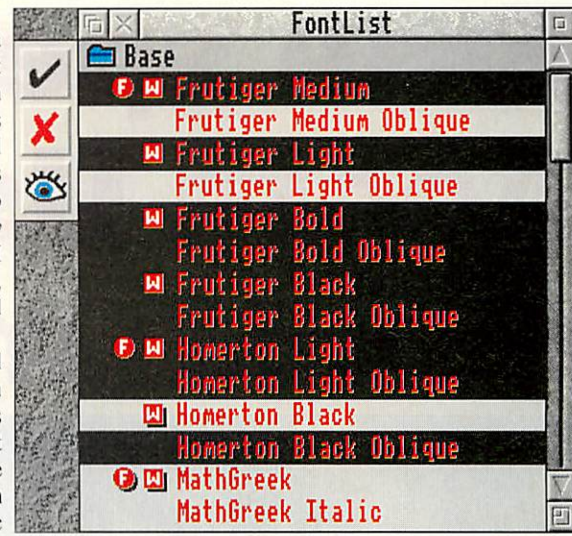
Even better than this, *Easy Font* will scan files belonging to most applications to find the fonts used in that document. It will then install those fonts and load the document.

Lists of installed fonts can be saved easily in a number of formats, including a *Draw* file with examples of the fonts, and a text file which can be re-loaded to install a particular set of fonts.

Unique to *Easy Font* is a facility for creating new font weights. It has long been an annoyance to me that there is no bold version of the symbol font, which makes equations involving vectors hard to write. Now, thanks to *Easy Font*, I can create my own. I can also create oblique, condensed, expanded and light versions of the font.

Easy Font gives control over all parameters when creating a new font. What is actually created is a small text file giving the name of the font and the transformation applied, which saves on disc space, and is the way that Homerton.Medium.Oblique is encoded in the operating system Rom.

Easy Font allows new weights of fonts to be created



Select individual font weights with *FontDir*

FontDir

FontDir from LOOKsystems works by creating a font partition in the *!Fonts* directory. This is accessed by running the *FontMgr* program, which enables font families to be copied to and from the partition as with the standard Risc OS Filer. Once the partition has been created, individual fonts are installed and removed using *FontDir*.

The disadvantage of using a partition is that each time it is changed, the font tables stored by the program need to be re-compiled; this only applies when adding or removing fonts from the partition, not altering which are available.

However, *FontDir* does offer finer control over the fonts which are available. *Easy Font* will only allow font families to be installed; *FontDir* allows individual weights. Apart from any other consideration, it means that unusual weights of the Rom fonts can be added – such as Homerton.Light – without needing to copy the Rom fonts to disc.

FontDir will also scan documents for fonts used, and install those fonts, although it won't create new weights of font, as *Easy Font* will. Of the two, I find *FontDir* marginally easier to use. The user interface is simpler and more intuitive, and the fine control offered over which weights of font are available is a bonus. It also works on all versions of the operating system, from Risc OS 2 to 3.5, while *Easy Font* only works from Risc OS 3.1 onwards.

On the other hand, the ability to create new font weights in *Easy Font* is useful, and the program is by no means hard to use. Both programs come with well-written manuals, and either would be a very useful addition to your hard disc.

Neither offers a way of compressing fonts on disc, which is a shame, but this is probably the only niggle with an otherwise excellent pair of applications.

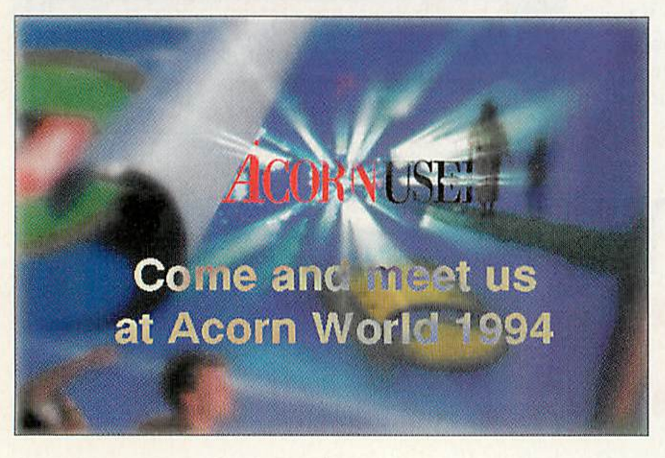
Each copy of *Easy Font* comes with a pack of ten fonts, while LOOKsystems offers a 'try before you buy' deal with a £10 off voucher for *FontDir* and other vouchers for the rest of the LOOKsystems Monotype font range.

Product Details

Product: Easy Font II
Supplier: Fabis Computing
Tel: (0283) 552761
Price: £25 + VAT (Site licence £100 + VAT)
Product: FontDir
Supplier: LOOKsystems
Tel: (0603) 748253
Price: £35 + VAT (£25 + VAT under trial offer before October 1994)

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Acorn World '94 Wembley Hall One, 28,29,30 October 1994

Only *Acorn User*, the best selling Acorn magazine in the world, brings you this exclusive special Acorn World '94 ticket offer. As co-sponsors, we can assure you that this year's show promises to be one of the main events in the world of computing, one that you really shouldn't miss. Take advantage of this special offer and not only may you win a free mouse mat, you save £1 on the price of adult and child tickets and £4 on a family ticket.

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You can meet the team behind the magazine when you visit our stand at the show. We'll be offering expert technical advice, back and current issues, a very special subscription offer and much, much more.

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● Please send me the following tickets for Acorn World '94:

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☐	Children	£4	£
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		Total	£

● I wish to pay by...

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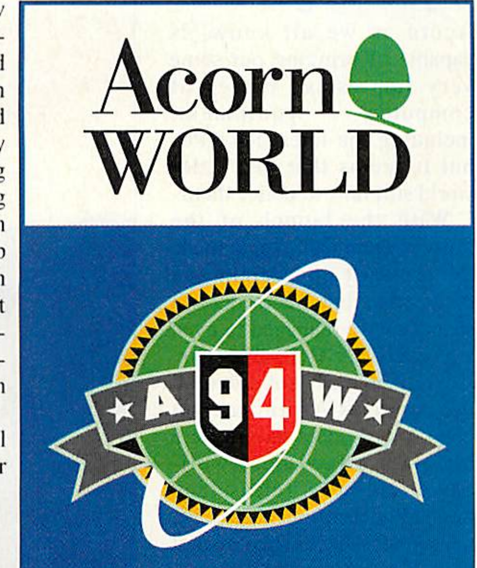
I'm going to Acorn World '94 because

☐ Tick this box if you do not wish to receive promotional material from other companies

AU09

Acorn World preview

We look at the attractions which will be on show at Acorn World 1994



The Acorn World show is still over two months away, and already 60 exhibitors from all branches of the Acorn family have booked stands. The show, to be held in the Wembley Exhibition Hall on 28–30 October 1994, is being co-sponsored by *Acorn User* magazine, and promises to be an even bigger success than last year.

A family show

With Acorn's educational bias, it is only natural that the show should attract family groups. As last year, there will be a healthy mix of information and entertainment, enough to occupy children of all ages.

The provision of a crêche will ensure that even the youngest family members will be welcome.

Watch out for free ticket offers and a special promotion on family activity weekends at locations across the UK.

Last year's children-abseiling event proved highly successful and will set the standard for events at this year's show.

Alongside the face-painting, competitions and jugglers there will be a wealth of information on new developments within and involving Acorn. The Risc PC was unveiled at the *Acorn User* Spring Show, and now – half a year on – Acorn will be showing some of the uses to which this innovative machine may be put, and addressing the question 'where next?'

Supporting Acorn's foray into the world of professional publishing in partnership with AB Dick-Itek, there will be a demonstration of plate-making with a printing press.

Among the many presentations in the theatre will be a talk on professional photo-retouching, showing how the new 24-bit retouching packages on the Risc PC can be used to montage images, or to make the camera 'lie'.

The Acorn stand

Acorn's Peter Bondar has promised something special for the Acorn stand. 'It's designed to show how truly sophisticated and powerful Acorn equipment is, and that it can really be pushed a long way without being stretched – an over-the-top demonstration designed to get the most technically knowledgeable Acorn user watching.'

The stand will feature a number of highly configured Risc PCs relaying images to a bank of overhead screens.

The presentation will show the latest Acorn innovations in the areas of operating systems, networking, data transfer, video conferencing and MPEG.

The stand will offer a sneak preview of future developments at Acorn – no Acorn fan can afford to miss this.

The Acorn World 1994 show
Wembley Exhibition Centre
28,29,30 October 1994
Tickets: Adults £5, Children £4, Family £16
Tel: (0933) 441448

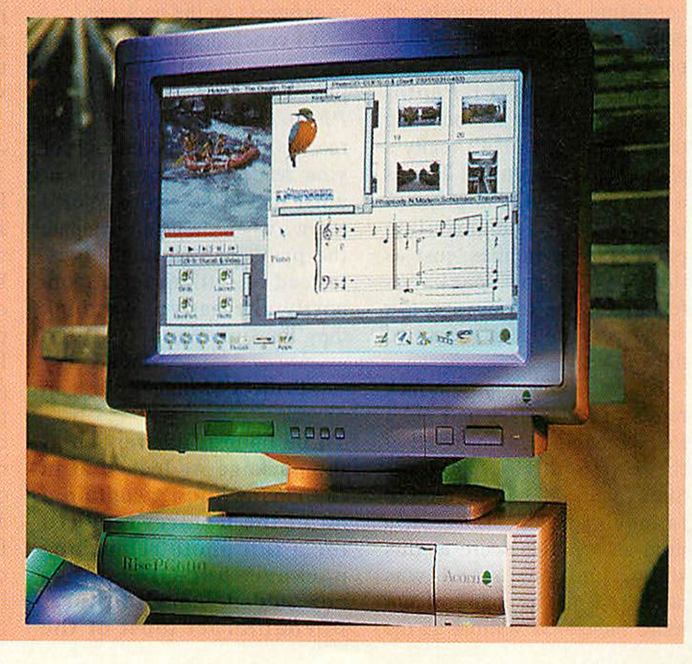
The Acorn audio/visual experience

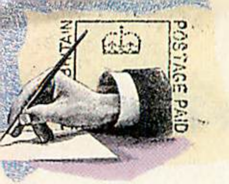
In the home it has long been the case that the personal computer has been locked away in a dark and quiet corner, being separated from the rest of the domestic experience as much as possible. The thought of a computer being placed in the living room, for example, has been regarded with suspicion – until now.

Everyday products which are currently taken for granted – but are entirely separate – are rapidly converging into a new way of thinking.

The entertainment, communications and computing industries are all adapting technology from each other's domain to create hybrid products of the future. In the ever increasing quest for greater self-determination, interactivity and easily available information, products for the next century will put the user in complete control.

In the Acorn A/V centre you will see a glimpse of this future; a future where movies are played on a domestic CD player, the entire A/V experience is controlled by a sophisticated computer, the user is entirely in control of the system from the comfort of their armchair and the environment can be customised to suit personal preferences.





If you've got it...

Acorn as we all know, is capable of bringing out some very impressive pieces of computer equipment, including the latest Risc PC, but it seems that the wider world still fails to notice them.

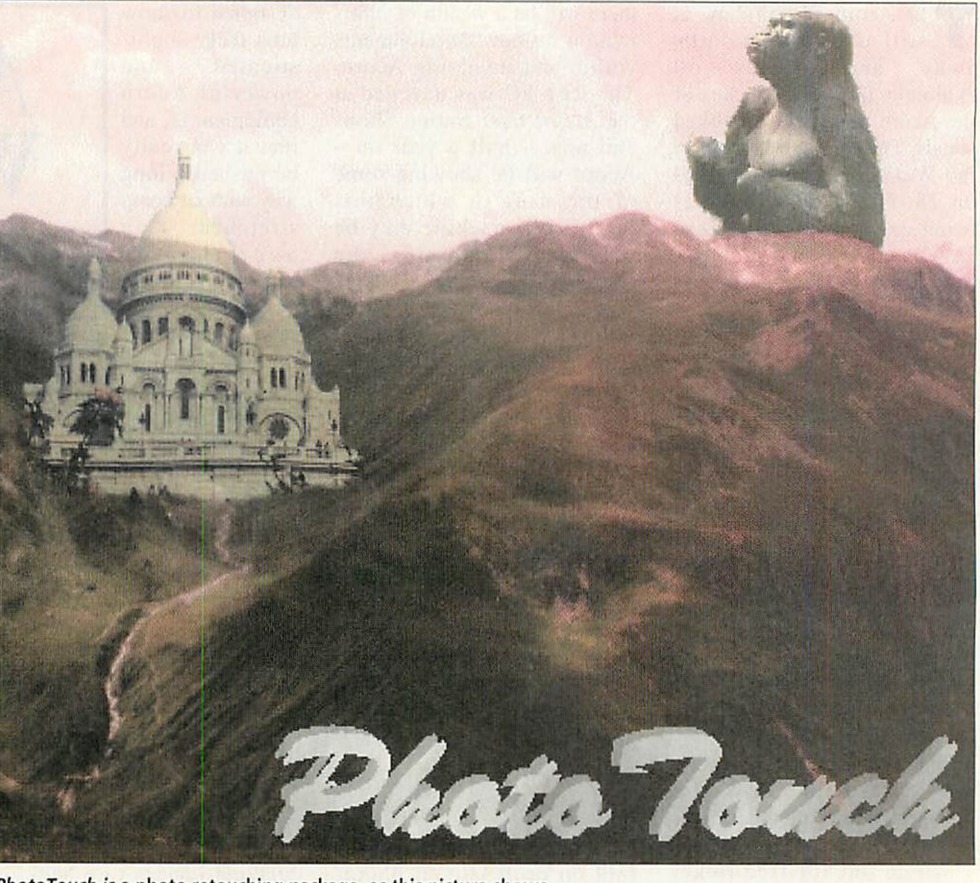
With the launch of the Power Macintosh, Apple made the press sit up straight and take notice, but Acorn doesn't seem to have managed to even wake up the British press. Advertising will not solve all the problems Acorn has, but until Acorn raises its profile a bit, with a few more well-advertised press release and the odd advertisement in a PC magazine, what chance does it have of being noticed?

Acorn has the perfect product, so now it is time to get the marketing in gear. After all, who is going to buy a computer they haven't even heard of?

Adam Juniper
Somerset

Hardly a month goes by without someone moaning about Acorn's lack of serious advertising. There's no smoke without fire, they say...

Touching a sore point



PhotoTouch is a photo retouching package, as this picture shows

In the July issue of *Acorn User* you published an article by Jack Kreindler reviewing currently available Risc OS photo retouching packages. This three page article ended with a single column consisting, almost entirely, of criticism of our *PhotoTouch* package.

This 'review' of *PhotoTouch* started by announcing that '*PhotoTouch* isn't really a photo-retouching tool'. This is totally incorrect. *PhotoTouch* is able to manipulate photographic images, just as the two rival packages featured in the review are. For some reason Jack seems to think otherwise.

Elsewhere in the article Jack refers to *PhotoDesk* and *DA's Picture* being demonstrated at the Harrogate *Acorn User* Show, with a 50:50 opinion in favour of each. Hang on a minute: we also were at this show, and our stand was attracting just as many, if not more interested visitors as the Spacetech stand, the publishers of *PhotoDesk*. At this venue, following full demonstrations of *PhotoTouch*, nobody was left unimpressed by the photo-retouching abilities offered, and many copies were sold. So did Jack really spend much time at the show?

PhotoTouch has been released, and is available now, it has many satisfied owners, and major development is still in progress on the package.

To conclude, the July article as it stands will wrongfully prevent all sales of *PhotoTouch* to *Acorn User* readers. I just hope enough of your readers have time to wait until the 1994 Acorn World Show, when they can evaluate the package for themselves, instead of settling for a more costly alternative. We think they'll be impressed!

Mark Perry
Project Manager, Oregan

To be honest, the version of the package we looked at in the review didn't contain a lot of the features required for a full photo retouching package, but Oregan has now added enough features to counteract most of the criticisms Jack made.

We'll be looking at a more complete version of *PhotoTouch* soon, but in the meantime, here are some snippets from our 'almost entirely critical' preview of the package: '*PhotoTouch* is an image processor with extensive image manipulation... enough effects to satisfy the deepest desires of even the most extreme image processing fanatic... offers an abundance of interesting and unusual processing effects... well-designed user interface.'

Sounds like an advert!

Typing blues

Re: 'Evolution or Revolution', June 1994. James Harrison wants to 'scrap the need for a keyboard and mouse in favour of an A4 touch-sensitive pen-pad.' What a wonderful idea. In fact, let's extend the principle. We could start by pedestrianising the M6. We could scrap our faxes and send runners with notes instead.

Where does the British attitude to typing come from? Is it a status thing? In other countries, typing is a mark of literacy. Is it sexual – do we associate it with (female) secretaries?

Typing is one of the most liberating skills known to man. Apart from mundane benefits like saving time and improving legibility, it is enjoyable, exhilarating, expressive and good for the soul. And computers make it so easy! It should be taught to every child (and certainly every teacher) along with handwriting.

More importantly still, typing reinforces the status of written language. Written English is not just spoken English written down; it is expanded English. It uses a vastly greater vocabulary and permits greater precision. And since language is conterminous with thought, written English is the means of expanding consciousness.

The pressure to downgrade written language, whether by contemning grammar and orthography, or by talking up electronic media at the expense of print is, in my opinion, misconceived. A retreat from the keyboard is a defeat for civilisation.

Peter Robertson
Tewkesbury

It's not often a letter reduces



me to complete stunned silence, but I'm lost for words on this one. And all the words in the letter are also in the dictionary – we've checked.

Incidentally, Deputy Editor David uses a pressure-sensitive graphics tablet instead of a mouse, and according to him it's 'marvellous: when you get used to it it's much easier than trying the mouse across a mouse pad'. Then again, he used to use a *trackerball...*

End game

I have been a regular reader of *Acorn User* for about a year now, and on the whole I enjoy the vast majority of the content, varied and diverse as it is. However, I have to draw your attention to a couple of matters which increasingly concern me.

First of all, your reply to Michael Evans in the July issue. I quote: 'Our market aim... dedicated, professional user of Acorn computers... top-end software... keenest Acorn users...', and yet increasingly over the last couple of months there has been what seems to be an increasingly large section of the magazine devoted to reviews of games or advertisements for games.

For me, a magazine which could reach and achieve your stated aims is not one which gives the games market such a positive platform. OK, so maybe there is a lot of money to be made from games, but let us not confuse the 'dedicated, professional user of Acorn computers' with the general 'run of the mill' games players (no offence meant to games players!).

Secondly, I am sure the new Risc PC is going to be the best thing since the last slice of bread, and although I want to be informed about it, I do not want it rammed down my throat – why not launch a sister magazine called *Risc PC User*? And keep *Acorn User* strictly for the Archimedes?

It's a great pity that in the same reply to Michael Evans' letter you also indicate that your intended audience is potential Risc PC users – why not be content with providing a first rate service for all Arc users who deserve support?

There is still a need for support in this area, The visible wholesale shift to concern with the Risc PC format almost smacks of *Acorn User* leaving the sinking Archimedes ship!

For example, if you gave serious consideration to educational computing, you would have realised that most of your coverage is aimed at secondary level, and little if any consideration is given to the use of computers in the primary or special fields of education.

And if you did, you would know that it is highly unlikely that primaries will be 'into' the Risc PC for many years to come – in my experience most primary schools don't even have access to machines with a hard disc!

I'm sure many teachers and parents would welcome articles, not quite on the complete novice level – hinted at again by Michael Evans – but on things like using spreadsheets, databases, DTP and so on at a general or intermediate level. 'Ah, but we've got a DTP column', you may say.

But in the first two columns we've had nothing but news of products or Risc PC news! No sign of issues or tips or hints on DTP anywhere! Keep product news on the news pages.

Stephen Hull
Derbyshire

Actually, the games coverage hasn't increased since January, and our coverage of Risc PC-specific products has been small, to say the least – there are hardly any Risc PC-only products around anyway.

See Viewpoint.

Like the link

Geoff Preston's 'Linking up' article in July's issue is really interesting: valuable factual experience from which I learnt something, rather than woolly nonsense about myths and dabblers. That's the stuff, Geoff!

Richard Hull's plea (letter in the same issue) for the development and production of a PowerPC plug-in card hit the nail on the head.

That really would put Acorn on the map. Potential Mac and IBM buyers would sit up and take notice, and the US market could not ignore it, either. A lot of us out here are already waiting for the PowerPC co-processor. I wonder whether Acorn can hear us?

George Szászvári
London

Praise? *Praise?* From the same kind soul who had a good old-fashioned go at Geoff back in July's letters page?

It just goes to show that it's not only impossible to please all of the people all of the time, it's also impossible to please one person all of the time.

On the last point, Acorn *can* hear us. The employees read *Acorn User* every month – though whether this will make them leap out and commission a PowerPC card is another matter altogether.

Drop us a line at Acorn User, Europress Publications Ltd, Europa House, Adlington Park, Macclesfield SK10 4NP

Viewpoint

Stephen Hull's well-observed criticism of *Acorn User* is a fine example of the editor's dilemma – having to cater for a collection of readers whose interests are as diverse as they are interesting. The problem is that the Acorn community is also so *passionate*, and your replies to our reader's survey both back up and disagree with some of the points Stephen made.

So, here is a profile of a typical *Acorn User* reader, based on our replies – take it with a serious pinch of salt! And if it exactly matches anyone out there, please let me know – it would be novel indeed to meet the 'model' reader.

John is male, in his late twenties, and works in education, holding an important position as an IT specialist. He understands his Acorn machine very well, which is not surprising considering he owns a 4Mb A5000 with an Acorn multisync monitor and a 100Mb hard disc, which he has owned for about two-and-a-half years. He also uses a PC at work, but he's so impressed with Acorns that he'll definitely be buying an Acorn as his next computer. He also has a printer and has a large collection of software, including a word processor, a DTP package, a spreadsheet, a database, a graphics package or two, and a bunch of games for those long winter nights. He's also planning to buy more graphics software, and even more games – just for the kids, you understand.

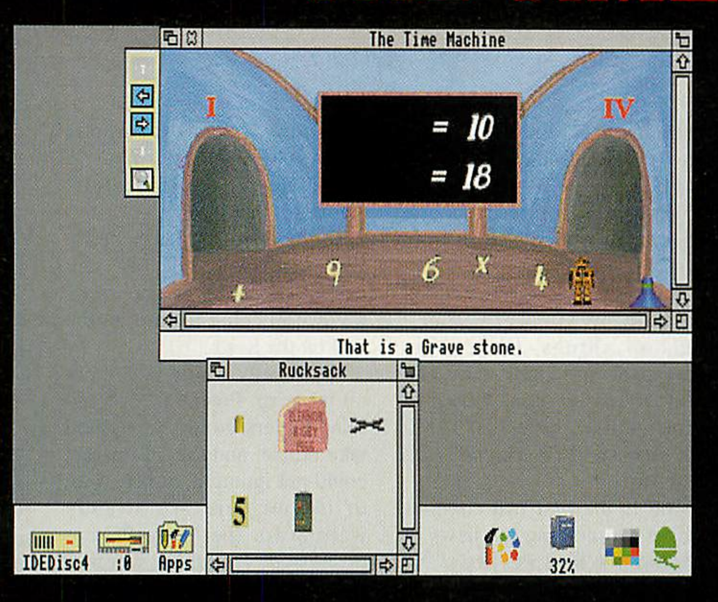
Then again, he's less interested in games coverage in the magazine than he is in actually playing the games themselves – he'd much rather read a good juicy review or use utilities off the disc.

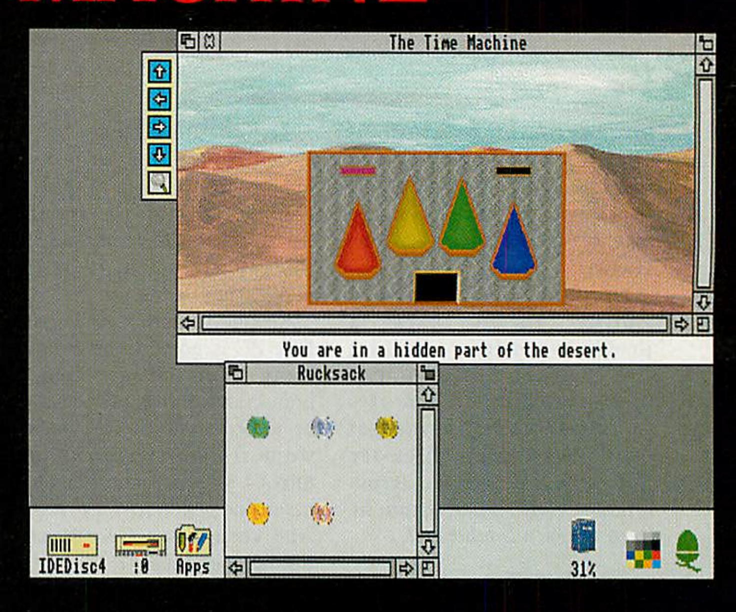
John enjoys using his machine at home, and for doing work from school. Leisure and programming also feature in his daily workout – he uses his computer every day – and he buys *Acorn User* every month to keep himself informed. He'll be using our reviews and news sections – which are his favourite bits of the magazine – to enable him to spend about £850 on hardware and about £170 on software next year. He's also happy as pie with the cover disc, and is generally very satisfied with the magazine.

So there you have it. Do you fit the bill?

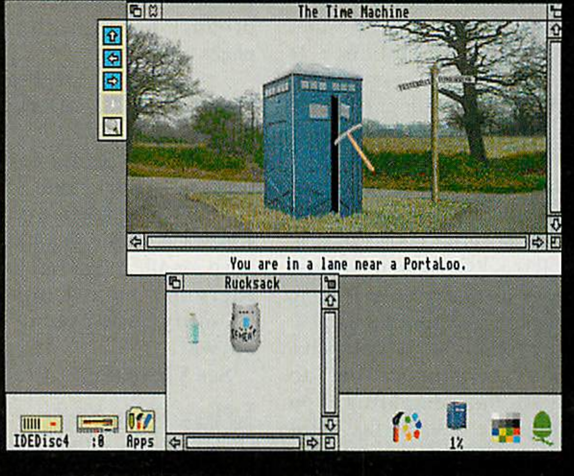
Mark Moxon

THE TIME MACHINE





It is some time since your encounter with the Haunted House in Hobbs Lane and life has tended to be a little on the quiet side. All at once, the idea shot into your brain. You had to get out, take some exercise, go for a nice walk. You grab your rucksack, lock the door and take the plunge! A mile or three of brisk walking soon began to take effect, the woes of the auction rooms fading into the distance. In fact, despite the drizzle, you feel quite well. Unfortunately, you could rather do with finding a little boys room. Then in the distance, past some deserted roadworks, you spot salvation – A blue box! But this was no ordinary Portaloo, as you were about to find out.



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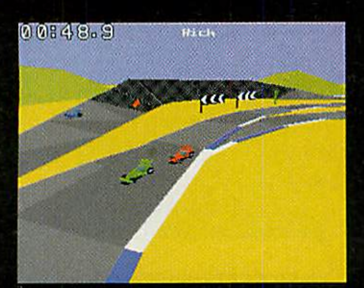
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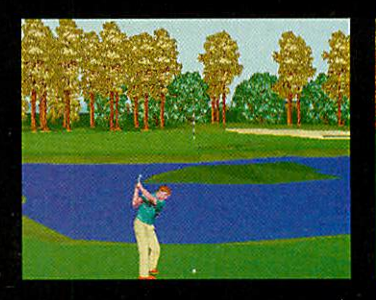
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In addition to the **Wentworth Course** which you get free with **Virtual Golf,** available now is this brilliant extra course to add to your enjoyment of the simulator. With ball flight and performance accurately compensated to simulate local atmospheric conditions, this disc is a must for all golf fans. VIRTUAL GOLF's unique control method, using the mouse to actually 'swing' the club, has won the game praise from established Golfers and Armchair Specialists alike. Included on the disc are Six Tournaments, Replays, Driving Range, Course Viewing Options, Left Handed Facilities, Match and Stroke Play and much more.

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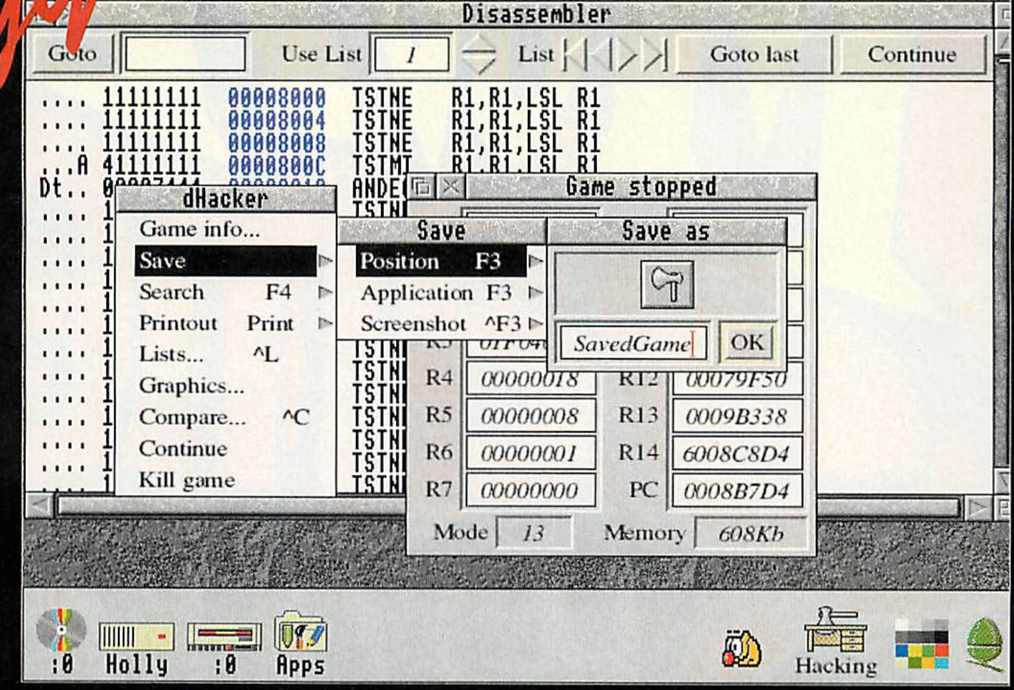






GAME SHOW

Doggysoft



DoggySoft Desktop Hacker provides essential modifications for all you impatient gamesters! Full review next month after I've got to grips with it!"

This month you will have noticed a rather impressive double-page spread containing the fruits of my labours with the all-time classic, *Flashback*.

Now I've linked the entire game but to give a solution in such depth at this stage would indeed be jumping the gun slightly. Don't worry though, you will get to see the result in the Games Special later in the year.

The link shows just the jungle section and should provide frustrated demo users with the ideal opportunity to complete the task in this humid backdrop.

In my mind you have to be very careful when it comes to revealing anything about games as a whole. Some magazines are exclusively full of cheats, cheats, more cheats and complete solutions to games.

I don't entirely agree with this course of action because if you spend some £30 on a game, nine out of ten people are going to be heartbroken after accidentally reading the solution to their favourite challenge.

The best balance I can provide to your requests for solutions and cheats is to wait a respectable time before I give out a complete guide and maybe a lesser time period for hints and special revelations within the game. Even while taking the screen shots of *Flashback*, I was careful not to leave all the sentries and robots in their default positions for all to see. You will still need considerable skills in Conrad manipulation and maybe a touch of luck to see you through.

Of course if you find yourself really stuck then maybe I can help or can contact a man who will!

With the deluge of PC games about to enter the market, cheats and solutions are going to be in demand, so I was overjoyed to receive the *Desktop Hacker* from DoggySoft just the other day.

Compatible with RISC OS 2, 3.0 and 3.1 plus the Risc PC, this unit effectively lets the user modify certain parameters of a game to gain extra lives or infinite energy etc.

I will spend more time with this package next month and will provide a full review, but it did get me thinking into just how many of you will be buying or own such a cheating device.

Maybe if demand is high I will set aside a small column for some exclusive codes and throw the odd prize in for good measure.

Steve Atherton

Robocod cheat – finally

Sadly space led to my favourite and most bizarre cheat being left out of the Robocod extravaganza. This will, I promise be the last-ever reference to Robocod, despite it being the most favoured game for cheats from those of you who write in.

Another great way of exploring and generally walking all over the game is to collect all the power-ups as described last month (September) on page 61, but don't obtain the LIVES sequence.

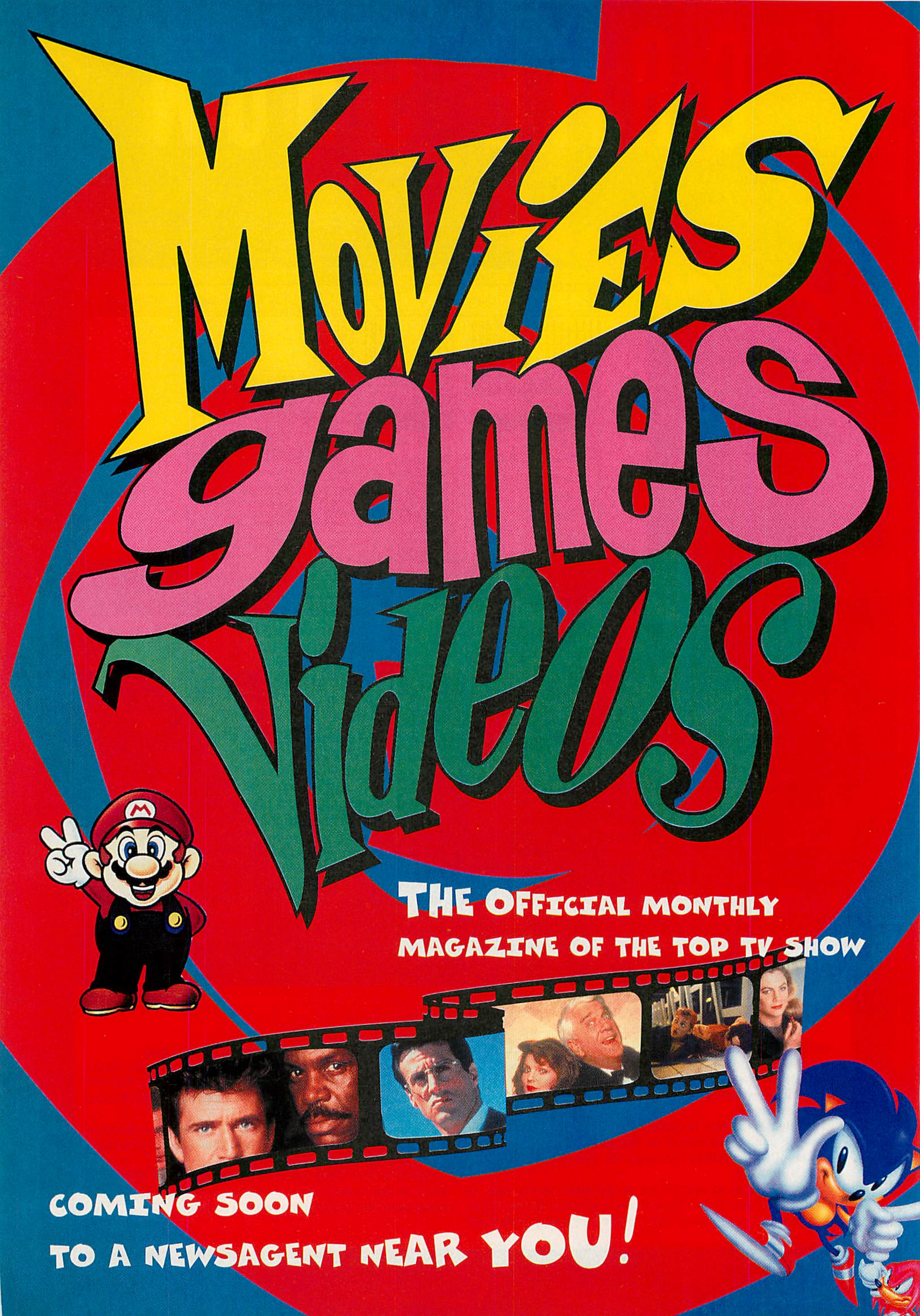
Play the game as normal up to the point where have to exit the level just before the one you last lost a life on. Go to the secret factory sections and complete by going right from the start, past the first two rooms and up the ramp.

Jump up the tower until a roof appears on your right. Hop on then shuffle left, back towards the tower. You will enter a secret area and after the wonder has worn off clear the room with the question mark.

Finish the second room pausing to collect the armour on the 'jelly' level. Finish that level and return back to the level which you were first going to begin.

You now have loads of lives and full batteries! This cheat takes a bit more effort both to achieve and maybe understand but is worth the result, you'll see!

Steve Atherton


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The Story

Once upon a time Titans and Cyclops lived in the depths of the earth and caused giant earthquakes. Not content with this subversive activity the Titans also defied the King of Olympus Zeus by building a stairway to his very doorstep and proceeding to hurl rocks and stones in his general direction.

After some ten years of this, a mere blink of an eye in God terms, Zeus decided to stop this little tantrum by letting the Cyclops free to do his dirty work and remove the menace completely.

You are Hermes, not an aircraft carrier, more a messenger from the Gods who must find and locate Tiresias, the only (wise) man who can set the Cyclops free.

The Game

The game arrives in a very trendy little pouch that doubles nicely as a convenient way of storing your current driving license.

All you get on the packaging is a brief story detailed above and an introduction to the GTAC environment.

The GTAC is a rather neat mouse con-trolled gaming system that does not require any keyboard inputs from the player. It is both fast and highly effective.

Three windows are displayed at any one time and each holds an individual characteristic of the situation. One contains pure text describing the moment, the next is an action window with the options open to the player clearly displayed. The bottom window contains any graphical data that may be around and is er.... strictly minimal.

Now I must point out that this game is not really intended for advanced adventure seekers like those who might have got involved in last weeks *Time Machine* or 'Time Toilet' as it turned out. Indeed the younger player may well be tempted both to the playing environ-ment and the rather simp-listic tasks you must perform.

The action window emphasises this by cutting down what little response you can give to any given situation.

You simply highlight the choice and try your luck.

This is a minus for the exploring factor but a plus if you really want to get on and achieve your ultimate goal by never wandering too far from the correct choice.

The actual game is hardly leading edge stuff and although not aimed at the advanced as I mentioned before it does unfortunately lack greatly the trimmings we now come to expect from software houes in this day and age, be they PD, Shareware or the Big Boys.

No sound is included nor is there animation. It is strictly nostalgic, I'm afraid, harking back to a time when it was all the rage to map out the Hobbit or even less complicated text challenges on your humble C64. Not that mapping should ever become out of date, in fact it is an essential pastime if you want to finish this game too.

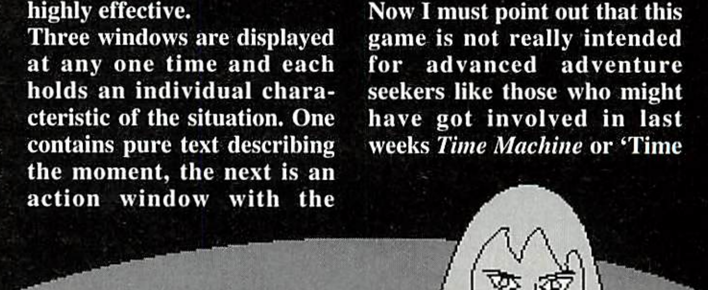
The Verdict

Wind back the clock and strike a couple of noughts off your working Ram and this might be a good offering.

As it happens, with a price tag of nearly fifteen quid and plenty of competition I would recommend this only to a trainee of adventure games.

The challenge is bright and cheerful enough with maybe a hint of education but as I said it is out of date.

Steve Atherton



FLASHBACK

THE DEMO SOLUTION

Before we dive in with commands, here is a brief outline of what you have to do in the order I found best and most economical. Some parts may be missed out as they are not entirely relevant to the demo version.

Task 1 Locate Holocube
Task 2 Locate cartridge to activate energy bridge
Task 3 Obtain teleporter device to exchange with wounded man for ID card which you'll need in later levels
Task 4 Find the required credits
Task 5 Locate key to open key-locked door
Task 6 Trade your credits for anti-gravity belt with old man
Task 7 Take the plunge

Directions

Waking up in the jungle your first task is to familiarise yourself with the controls. I suggest some immediate practice with all aspects of jumping – namely the short jump and the extended leap.

You will also need considerable speed with the gun as well as a quick tour of the inventory control.

To conquer the jungle, you must first be reminded of your task in life and that can only be done with the aid of the Holocube. Activate and learn exactly what all the fuss has been about.

Next return to your start point then head towards the position of the cartridge. The robot which appears to stop your progress can be removed by crouching out of range and waiting for the antenna to protrude. Two shots should do it.

The cartridge is made available by shooting the guard and will need charging as it is a dead unit and cannot activate the bridge as found.

To charge it place it in the nearest generator, in this case I suggest '01' marked on the map.

If for any reason combat has worn down your shield points, quickly recharge at this point too. Next, head towards the cartridge lock where the freshly activated unit should bridge the gap.

The advancing robot should be destroyed with the aforementioned method of crouch and shoot.

Take the lift to the platform containing the Telecontroller by leaving the stone on the triggering plate.

By removing the stone you should be able to take the lower lift to a save point. These are especially handy as being wiped out allows for a restart with your inventory intact from that point.

Now is the time to exchange the telecontroller for an ID card that allows some locked doors to be opened.

By climbing up onto the gantry next to the Energy Generator '01' and tripping the lift plates, you will be able to confront the wounded man and make the deal.

Move back down towards the energy bridge and cross over to drop down the lift shaft where you will confront the two guards.

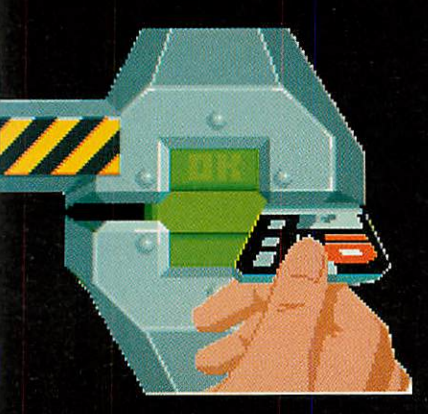
The right guard will always shoot the left one, so keep this in mind when starting any combat.

Switch off the energy trap and jump over the triggering plate. Pick up the key and grab the 500 credits. The trigger next to the Energy Generator will engage the two laser turrets on the previous screen – this can be dodged by timing the climb and rolling away.

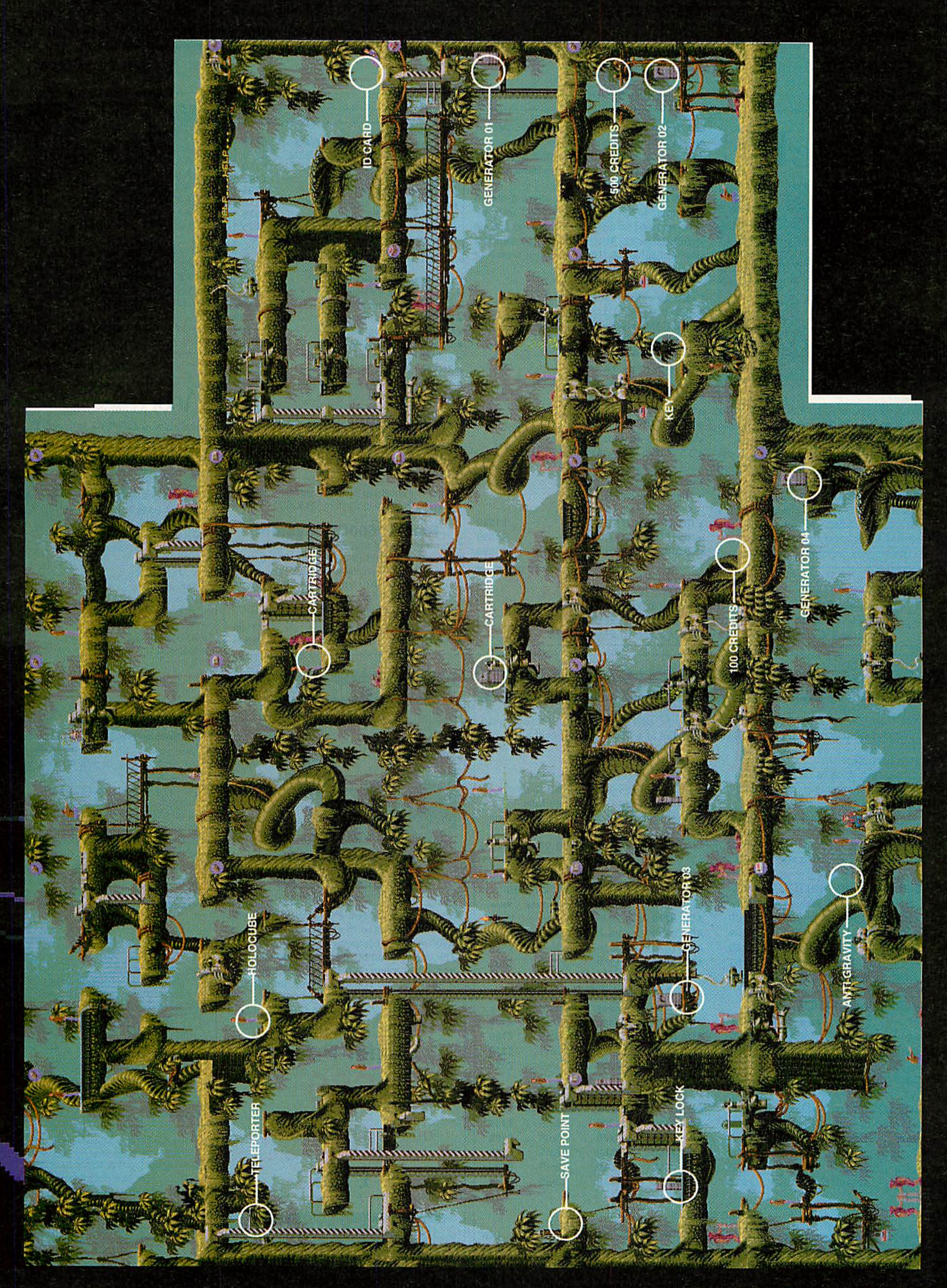
Use your key to open the key-locked door and on jumping down shoot the two guards. Go to see the old man who will hand you the anti-gravity belt in exchange for the 500 credits, then jump into the void and that's it!

For owners of the full game watch out in later issues for more graphical solutions.

Steve Atherton






ID CARD
GENERATOR 01
500 CREDITS
GENERATOR 02
KEY
CARTRIDGE
CARTRIDGE
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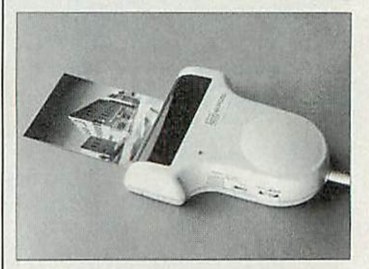
BUY ARM3 & RISC OS 3 TOGETHER FOR ONLY £155

RISC OS 3.1 Upgrades

RISC OS 3.1 Single User upgrade	£69
RISC OS 3.1 Bulk Software upgrade	£319
RISC OS 3.1 Hardware upgrade	£24

Scan256 Handscanner

If you need a 256 greyscale handscanner for your Archimedes or A3000 (external), then look no further.
Scan256 gives you up to 256 grey levels at a maximum resolution of 400dpi and is supplied with state-of-the-art software. This makes it the only sensible scanning and image processing solution for the Acorn 32-bit machines.
The highly advanced software supplied with the scanner offers you many different image processing options, such as dithering, image enhancement, edge detection, brightness and contrast controls, plus many more.



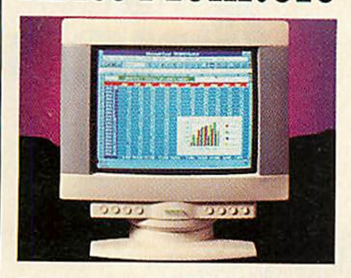
Features include:
- Multiple copies of an image in memory at once
- Advanced image processing tools
- Convolution digital filtering with over 100 filters
- Adjustable scale & size during scan
- Save images in industry standard formats
- True brightness, contrast and gamma controls
- Selectable scanning modes
- 105mm scanning width
- Ability to rotate and shear the image

Scan256 for A300/A400/A5000	£149
Scan256 for A3000 external	£169

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or FAX YOUR ORDER on 0582 488588

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Aries Monitors



For the ultimate in high definition, flicker-free monitors displaying the sharpest text and graphics look no further than the new Aries Monitor range.
They're easy on the eye, safe and offer superb value for money – as you'd expect from Watford.
All monitors require SVGA VIDC Enhancer and 9pin to 15pin VGA adaptor.

Aries 14" SVGA Monitor
- 14" high res 0.28mm dot pitch tube
- 800 x 600 NI (1024 x 768 max resolution)
- Horizontal frequency: 29KHz to 38KHz
- Adjustable horizontal & vertical controls
- Tilt & swivel base
- Complete with connecting lead (15pin)

£165

Aries A-Scan Pro Monitor
- 14" high res 0.28mm dot pitch tube
- 1024 x 788 NI @ 72Hz
- Horizontal frequency: 29KHz to 70KHz
- Front mounted user controls
- Auto pincushion/trapezoid control
- Complete with connecting lead (15pin)

£199

Aries 6000 LR Monitor
- 15" high res 0.28mm dot pitch tube
- 1280 x 1024 NI @ 60Hz
- Horizontal frequency: 30KHz to 65KHz
- Microprocessor controls & LCD display
- Tilt & swivel base
- Complete with connecting lead (15pin)

£279

Aries 6500I Monitor
- 15" flat screen 0.28mm dot pitch tube
- 1280 x 1024 NI @ 60Hz
- Horizontal frequency: 30KHz to 65KHz
- Microprocessor controls & LCD display
- Precise colour controls
- Complete with connecting lead (15pin)

£299

Aries 7500 Monitor
- 17" flat screen 0.28mm dot pitch tube
- 1280 x 1024 NI @ 60Hz
- Horizontal frequency: 30KHz to 65KHz
- On-screen display of user settings
- Tilt & swivel base
- Complete with connecting lead (15pin)

£525

Aries 7560I Monitor
- 17" flat screen 0.26mm dot pitch tube
- 1280 x 1024 NI @ 60Hz
- Horizontal frequency: 30KHz to 65KHz
- Microprocessor controls & LCD display
- Precise colour adjustment
- Complete with connecting lead (15pin)

£499

Memory Upgrades
- A310 to 2Mb RAM £89
- A310 to 4Mb RAM £149
- A3000 to 2Mb RAM £49
- A3000 to 4Mb RAM £119
- A3000 to 8Mb RAM £259
- A3010 to 2Mb RAM £49
- A3010 to 4 Mb RAM £139
- A3020/A4000 to 4Mb RAM £79
- A410/1 to 2Mb RAM £35
- A410/1 to 4Mb RAM £70
- A420/1 to 4Mb RAM £105
- A540 additional 4Mb RAM £249
- A5000 to 4Mb RAM £79
- A5000 4Mb to 8Mb RAM £259
- RiscPC additional 2Mb RAM £85
- RiscPC additional 4Mb RAM £139
- RiscPC additional 8Mb RAM £279
- RiscPC additional 16Mb RAM £499

PC Cards
Transform your Archimedes so you can run standard PC MS-DOS software and even Windows 3.1 with the Aleph One range of PC cards. Available as a bare card with either 486SLC25 or 486SLC2-50 (no memory) or with 4Mb RAM fitted. Prices do not include DOS or Windows, which we can supply for an extra £99, at time of purchase only.
- 386 1Mb RAM - A3020/A4000 £225
- 486 4Mb RAM - A3020/A4000 £420
- 486 25MHz 0Mb RAM - A5000 £369
- 486 25MHz 4Mb RAM - A5000 £529
- 486 50MHz 0Mb RAM - A5000 £449
- 486 50MHz 4Mb RAM - A5000 £609
- MS-DOS 6.2/Windows 3.1 Bundle £99
- 4Mb SIMM RAM for 0Mb cards £149

Ultimate Expansion
- Ultimate Expansion – A5000 £39
- Ultimate Expansion – A3000 £39
- Ultimate Expansion – A3010 £41
- Ultimate Expansion – A3020 £38
- SCSI uPodule £69
- Vision Digitiser uPodule £99
- Analogue uPodule £29
- Serial Port uPodule £49
- MIDI uPodule £49
- Scanlight 256 uPodule £229
- PSU Kit for Ultimate Exp. £30

(please call for pricing of above cards with IDE hard drives fitted)

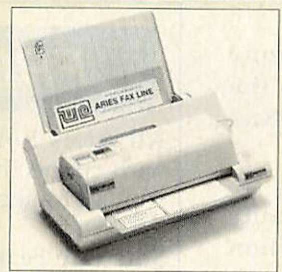
I/O Cards
- A3000 User Port/MIDI card £44
- A3000 Analogue/User card £35
- I/O Podule - User/Ana/1MHz £79
- Archi Analogue/User card £49

Miscellaneous
- Floating Point Accelerator – A5000 £99
- MIDI Expansion card £85
- MEMC1A Upgrade £25
- 4 Podule Backplane £22
- Fan for Backplane £7
- Arc to BBC Serial Link £16
- A3000 Serial Upgrade £19
- Laser Direct Hi-Res 4ppm £799
- Laser Direct Hi-Res 8ppm £1099
- ArcLaser A4-1200 Printer £985
- Scanlight 256 – A3000 internal £195

Archi Hand Scanner
Watford's MKII Hand Scanner for the Archimedes and A3000 has a maximum resolution of 400dpi, and a scan width of 4". Features include: cropping and scaling images, X flip and Y flip, and edge detection.
- A300/A400/A5000 version £89
- A3000 external version £109
- v1.10 ROM Upgrade £20

Upgrade to A4 Scanner
For existing users of the Watford MK2 Hand Scanner we can offer you an upgrade to the A4 Scanner for only **£129**

Archi A4 Scanner



The 216mm scanning width can cope with both desktop scanning of single sheets, photographs, etc, with its detachable sheet feeder, or used as an A4 wide hand scanner. 64 grey levels are produced from the scanner at resolutions up to 400dpi.
- A4 Scanner for A300/A400 £199
- A4 Scanner for A3000 £229
- Sheet Feeder for A4 Scanner £69

Disc Controllers
- External Floppy Disc Interface £10
- Backplate/Lead for above £9
- 8-bit SCSI card £129
- 16-bit SCSI card £149
- 16-bit SCSI card - 16Kb cache £169
- 16-bit SCSI card – Acorn £249
- ST506 Hard Disc podule £49
- 16-bit IDE interface - A300/A400 £39
- 8-bit IDE interface - A3000 internal £49

Graphics Cards
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- Chroma 500 Genlock card £419
- Chroma 150 PAL Encoder £169
- Chroma Genlock card £209
- Hawk V9 MKII Digitiser £189
- Eagle M2 Multimedia card £319
- Vision Colour Digitiser £99
- HiVision Colour Digitiser £149
- Scanlight Video 256 £199

Archi Mk4 Mouse
The new Mk4 mouse for your Archimedes is the ideal replacement for your old worn out Acorn mouse. The sleek design makes the mouse a pleasure to handle, and it also looks nice on your desktop.

only £24

Archi Accessories
- A3000/A3010 Keyboard Dustcover £5
- A3000 Combined Dustcover £9
- A300/400 Dustcover £9
- Archi Keyboard only Dustcover £5
- A5000 Dustcover £9
- 14" Monitor Dustcover £6
- Perspex Keyboard Cover £8
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- A3000 Podule Case £15
- A3000 Carry Case £10
- A4 Notebook Carry Case £35
- A4 Notebook Battery Pack £49
- Archi Keyboard Extension Lead £8
- Quest Trackerball £25
- Voltmace Delta Cat Joystick £25

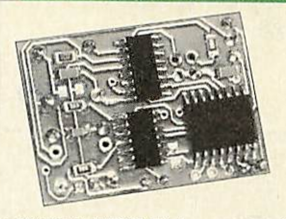
Networking
- Econet Interface – all models £49
- Ethernet Interface III – A5000 £149
- Ethernet interface – RiscPC £99
- Acorn Access – A3000 £145
- Acorn Access – A3020 £145
- Acorn Access – A5000 £145
- Acorn Access – RiscPC £119
- Accord P/P Networking – A3000 £145
- Accord P/P Networking – A3020 £149
- Accord P/P Networking – A5000 £145
- EtherLAN Card – A3000 (BNC) £131
- EtherLAN Card – A3020 (BNC) £143
- EtherLAN Card – A5000 (BNC) £131
- EtherLAN Card – A3000 (BNC/TP) £131
- EtherLAN Card – A3020 (BNC/TP) £148
- EtherLAN Card – A5000 (BNC/TP) £131
- EtherLAN Card – RiscPC (BNC/TP) £113
- 12 port UTP Ethernet Hub £299

Ethernet Cabling

Length	Thinnet	Twisted Pair
1m	£2.50	£2.00
3m	£4.50	£2.75
5m	£6.50	£3.25
10m	£9.50	£5.25

Fax/Modem Bundle
Now you can use your Archimedes computer as a fax machine. Prepare a fax, send it using the ArcFax software. Receiving a fax is simple - display on the screen or print out on any RISC OS printer.
- Fax/Modem with ArcFax software £149

VIDC Enhancer



The Watford VIDC Enhancer for the Archimedes 300/400 and A3000 computers, caters for all types of Multiscan and VGA monitors.
- Multiscan VIDC Enhancer £15
- SuperVGA VIDC Enhancer £29

CD-ROM Drives



Cumana OSCAR CD-ROM Drive
Dual speed drive – connects to printer port on A3010, A3020, A4000, A5000 or RiscPC.
- OSCAR CD-ROM – parallel port £229

Cumana BRAVO CD-ROM Drives
Dual speed drive – available with printer port connection or supplied with SLCD interface.
- BRAVO CD-ROM – parallel port £299
- BRAVO CD-ROM – A3000 SLCD £299
- BRAVO CD-ROM – A5000 SLCD £299

Cumana VICTOR CD-ROM Drives
Dual speed SCSI drive – available as a single drive or dual & quad speed versions using a six disc CD autochanger. Interface not included.
- VICTOR 402A – single drive £299
- VICTOR 632A – single drive £399
- VICTOR 602-6CD A/C–Dual sp £499
- VICTOR 604-6CD A/C–Quad sp £969

Cumana INDIGO CD-ROM Drives
The ideal CD ROM drive for the RiscPC. Simply connects to IDE interface, so no need to use one of the expansion slots (300i only). The 300iA also includes an audio mixer & Pro Atrisan 2 CD.
- INDIGO 300i CD-ROM – IDE I/F £199
- INDIGO 300iA CD-ROM – IDE £249
- INDIGO 401 CD-ROM – SCSI £199
- INDIGO 631 CD-ROM – SCSI £299

Interfaces & Accessories
- SCSI Interface – A3000/A4000 £119
- SCSI Interface – A5000 £119
- SCSI-2 Interface – RiscPC £199
- SCSI Interface cable £15
- SCSI II Interface cable £20

CD-ROM Software

Artworks	£129
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British Birds	£150
Castles	£40
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CD – 4 Disc Set	£149
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Creepy Crawlies	£90
Dictionary of Living World	£175
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Illustrated Holy Bible	£23
Illustrated Shakespeare	£23
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Really Useful CD v2	£47
Times & Sunday Times	£195
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Changing Times	£125
Daily Telegraph	£125
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World War 2	£149
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Directions 2000 – French	£140
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Inventors & Inventions	£150
Land and Air – Environment	£130
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Picture Gallery	£79
Cars – Maths in Motion	£49
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Imagine.....



A 2400dpi* colour flatbed scanner for the Archimedes or RiscPC for under £800. With true colour capabilities (16.7 million), we are sure you'll agree that it's an offer you can't afford to ignore.

Having brought you the most innovative handscanner back in 1992, we thought it was time to do it again. Following their success in the PC field, we introduce the award winning Aries Relisys flatbed scanners for the Acorn Archimedes and RiscPC. When you see the remarkably affordable price, you'll be sure to want one.

With the Aries Relisys scanner you'll open up a whole new world of possibilities. Imagine being able to scan a whole A4 size picture and in true colour. If you don't want the whole image, simply select the required area and scan again - the software will capture only what you want to see.

The Aries Relisys scanner is the perfect answer for anyone involved in desktop publishing (DTP) work that requires the ability to import graphic images easily, or import text via Optical Character Recognition (OCR) software.

With the firmware interpolation they produce outstanding quality scans (up to 2400dpi*) and either 256 greyscales or 16.7 million colours.

The scanners are amazingly fast too. With a standrad SCSI II interface, they can scan a whole A4 page in 15 seconds (mono) and in minutes (24-bit colour).

An optional 50 page document feeder is available for scanning long documents, and an adaptor to get the best results when scanning transparencies.

* Resolution quoted is the maximum achievable using interpolation.

ISO-9001
Manufactured to BSI Quality Standard Certificate

FREE Software

All Aries Relisys scanners come supplied with connecting cable, TWAIN driver and a copy of ImageMaster scanning software.

Software Features:
- Scan size not limited to RAM – images are saved directly to hard disc.
- Industry standard files supported – TIFF, JPEG, PCX, PBM, BMP, GIF and Sprite.
- TWAIN compliant.
- Scan type selectable from monochrome up to 16.7 million colours (24bpp).
- Advanced image processing tools/filters.
- Edit, rotate, shear, crop & flip images.
- Alter colour resolution of scanned image.

Scan256 Pro – 256 Greyscale A4 Scanner
- Single pass 256 greyscale scanner
- 8.5" x 14" scanning area
- 2400dpi x 2400dpi maximum scan resolution*
- 256 brightness/contrast settings
- SCSI II interface

Introductory Offer Price **£599**

ScanColour Pro – Colour A4 Scanner
- Single pass 16.7 million colour scanner
- 8.5" x 14" scanning area
- 2400dpi x 2400dpi maximum scan resolution*
- 256 brightness/contrast settings
- SCSI II interface

Introductory Offer Price **£799**

Optional Accessories:	
Document Feeder	£259
Transparency Adaptor	£295
Sleuth OCR software	£43

Educational Discounts
Please call 0582 745555 for details

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Archimedes Software

Desktop Publishing

- Impression Publisher £109

Impression Publisher

Impression Publisher is the latest version of the highly acclaimed document processing software for the Archimedes and RiscPC. Publisher can be your work processor. It is also excellent at handling large documents, even books. It's ideal for producing adverts, brochures and the most complex page layout tasks, and at a remarkable price.

Special Offer Price £109

- Impression Publisher OPI £159
- Impression Style £69
- Impression II Business Supplement £29
- Impression II Borders Disc £10
- Ovation £79

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- CC Graphics Loaders £35
- Desktop Thesaurus £15
- Equasor £32
- Spellmaster £25
- Sleuth OCR £43
- Type Studio £35
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- DeskEdit 3 £21
- Data Word £14
- Easiwriter 3 £115
- Easiword Plus £38
- Pendown £45
- Pendown Plus £65
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- Primeword £42
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- Advantage £39
- Eureka £92
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- Flexifile £18
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- Genesis Professional £119
- Insight £57
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- Pinpoint Datafiles £
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- S-Base Personal v2 £99
- S-Base Developer v2 £189

Integrated Packages

- Advance £79
- Desktop Office £48
- Pipedream 3 £69
- Pipedream 4 £90
- Fireworks £124

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- Desktop Assembler £99
- Desktop C £151
- PC Bolt £89
- Control Logo £21
- Easy C £43
- Logotron Logo £57
- Risc BASIC Compiler v9.0 £59
- Risc FORTH Compiler £59
- Robo Logo v1.1 £29

Site Licences

- Advance Primary Licence £181
- Advance Secondary Licence £440
- Artworks £540
- Impression Style £495
- Impression Publisher £540
- Pinpoint 2 879
- Pipedream 4 £695

Communications

- ArcTerm 7 £58
- Hearsay 2 £59
- Arc Fax £34

Graphics

- Artisan 2 £43
- Autosketch II £89
- ArcTist £15
- Atelier £23
- Artworks £99
- Chartwell £22
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- Craftshop 2 £18
- Euclid 2 £58
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- GraphBox £36
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- Kid Pix £32
- Plot £59
- Poster £63
- Presenter GTI £55
- PrimeArt £42
- Pro Artisan 2 £95
- ProArt 24 £125

ProArt 24

ProArt is the latest addition to Clares' range of graphics packages. Written for the RiscPC, this powerful software takes advantage of the machines 24-bit colour capabilities and more.

Special Offer Price £125

- Render Bender 2 £37
- Rephorm £42
- Revelation 2 £69
- Revelation Image Pro £99
- Solids Render v5.1 £59
- Titler £105

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- Arc PCB v1.8 £72
- Arc PCB Schematics v3.2 £151
- Arc PCB Professional v5.1 £203
- CADet £95
- SolidCAD v5.1 £62
- SolidTools v5.1 £154
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- Oak Parametric Design Tool £149
- WordCAD £59

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- Expression PS £18
- Star/Citizen Colour Driver - OS 2 £10
- DeskJet Colour Driver £10
- Epson JX Colour Driver - OS 2 £10
- !Pronters v1.22 Upgrade - OS 3 only £5
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- HP DeskJet/Laser Jet Turbo Driver £39
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- TCP/IP Protocol Suite - Site Licence £399

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- SWIV £8
- Technodream £18
- Virtual Golf £18
- Warlocks £22
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- Compression £32
- Gerber Plot £43
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- Oak Logic £69
- Ancestry £42
- Time Tabler £469
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- WIMP Programming for All Disc £4
- ImageMaster Scanner software £30
- Time Tabler £469

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We have a number of software titles on offer, at **£15.00** each, while stocks last. Please call for availability.

- **Acorn Desktop Publisher**
- **First Word Plus Rel. 2**
- **Clares Graphic Writer**
- **Desktop Folio DTP**
- **Investogator II**
- **PC Emulator v1.7**
- **Genesis Plus**

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- Acorn to PC £5
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- Artworks Made Easy £12
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- Ansi C Rel 4 User Guide £25
- BBC BASIC Reference Guide £15
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- Mastering First Word Plus £12
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- RISC OS 3 First Steps £12
- WIMP Programming for All £10
- A3000 Technical Manual £28
- A5000 Technical Manual £59
- A4 Notebook Technical Manual £59
- A3010/A4000 Technical Manual £29
- RiscPC 600 Technical Manual £POA
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Laser Printers

All Laser printers (excluding Hewlett Packard) include 12 Months On-Site maintenance

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Brother HL-6V	6ppm	£463
Canon LBP-4U	4ppm	£478
Canon LBP 4i	4ppm	£480
Canon LBP-8 IV	8ppm	£920
Canon LBP-8 IIIR	8ppm	£1559
Epson EPL-5200	6ppm	£480
Epson EPL-5600	6ppm	£660
Epson EPL-7500 PS	6ppm	£1135
Fujitsu VM600	6ppm	£529
Fujitsu VM4	4ppm	£499
HP Laserjet 4L	4ppm	£462
HP Laserjet 4 ML	4ppm	£745
HP Laserjet 4P	4ppm	£716
HP Laserjet 4MP	4ppm	£975
HP Laserjet 4+	12ppm	£947
HP Laserjet 4M+	12ppm	£1270
HP Laserjet 4Si	16ppm	£2175
HP Laserjet 4Si MX	16ppm	£3259
NEC SuperScript 610	6ppm	£422
NEC S 102P	6ppm	£992
OKI OL-400ex	4ppm	£379
OKI OL-410ex	4ppm	£515
OKI OL- 850 PS	8ppm	£770
Panasonic KX-P4400	4ppm	£360
Panasonic KX-P4410*	5ppm	£360
Panasonic KX-P4430*	5ppm	£496
Panasonic KX-P4440	10ppm	£775
Panasonic KX-P5400	4ppm	£599
Star LS-5	5ppm	£365
Star LS-5 EX	5ppm	£499
Star LS-5 TT	5ppm	£530

*2 years on-site warranty

Laser RAM Upgrades

Type	1M	2M	4M	8M
Canon LBP-4+	£139	–	–	–
Canon LBP-4i	£109	–	£279	–
Canon LBP-8 IV	£119	–	£299	–
EPL-4100/4300	£70	£110	£205	–
EPL-5200/5800	£58	£115	£215	–
Fujitsu VM600/VM4	£57	£85	£149	£299
Fujitsu VM800	£115	–	–	–
HP III/IIIP/IIID	£75	£115	£135	–
HP II/IID	£75	£115	£135	–
HP IIISI	£57	£85	£158	£299
HP 4/4M/4P/4MP	£85	£85	£149	£299
HP 4L/4ML	£75	–	–	–
KX-P4410/4430	£129	£199	–	–
KX-P4420/4450i	£75	£115	£135	–
KX-P4400/5400	£89	£139	£229	–
OKI OL400c	£89	£118	–	–
Star LP-8	£138	£225	–	–
Star LS-5	£75	–	–	–

Laser Consumables

Type	Toner	Drum	Dev
Canon/Star 4s	£48	–	–
Canon LBP-8 IV	£70	–	–
Canon LBP-8 III	£52	–	–
Canon LBP-4U	£52	–	–
EPL-4100/4300	£83	£89	–
EPL-5200	£85	–	–
EPL-7500	£177	–	–
Fujitsu VM600	£85	–	–
Fujitsu VM800	£115	–	–
Fujitsu VM4	£29	£149	£89
HP III/IIID	£52	–	–
HP IIIP/IIP	£48	–	–
HP IIISi/4Si	£95	–	–
HP 4/4M/4P/4MP	£70	–	–
HP 4L/4ML	£45	–	–
NEC 610	£85	–	–
NEC S60/S62P	£89	–	–
OKI OL-400/800	£19	£189	–
OKI OL-400s	£17	£129	–
KX-P4410/30	£27	£109	£109
KX-P4420	£22	£80	£59
KX-P4450/51/55	£19	£99	£79
KX-P4400/5400	£32	£69	–
Qume Crystalprint	£99	£189	–
Star LS-5	£83	–	–

Laser Accessories

JetPage Postscript Cartridge - IIP/IIIP	£225
Postscript Upgrade for LaserJet 4	£270
LaserJet 4 Lower Paper Cassette	£205
LaserJet 4 JetDirect Ethernet Card	£339
LaserJet IIIP Lower Paper Cassette	£115
Ozone filter for KX-P4420	£9
Ozone filter for KX-P4450/4455	£20
LaserJet 4Si Duplex Unit	£475
Envelope Feeder for LaserJet 4	£199
LaserJet Font Cartridges	from £45
LaserJet III FX/IBM Emulation Cart.	£79
Lower Paper Tray for Canon LBP-4	£98
A5 Paper Feeder for LaserJet 4P	£85
Postscript Upgrade for LaserJet 4P	£225

9pin Matrix Printers

Citizen Swift 90	80col	£115
Citizen Swift 90C	80col	£122
Citizen 1200+ Parallel	80col	£90
Citizen 120D+ Serial	80col	£109
Epson LX100	80col	£109
Epson LX300	80col	£??
Epson LX400	80col	£91
Epson LX1050	132col	£174
Epson FX870	80col	£226
Epson FX1170	132col	£284
Epson DFX5000C	132col	£1095
Panasonic KX-P1150	80col	£89
Panasonic KX-P1695	132col	£287
Star LC15	132col	£178
Star LC100C	80col	£89
Star ZA200	80col	£255
Star ZA250	132col	£315

24pin Matrix Printers

Citizen ABC Mono	80col	£115
Citizen ABC Colour	80col	£135
Citizen Notebook Printer	80col	£???
Citizen Swift 200 Mono	80col	£138
Citizen Swift 200 Colour	80col	£146
Citizen Swift 240 Mono	80col	£185
Citizen Swift 240 Colour	80col	£165
Citizen Swift 24X	132col	£235
Epson LQ100	80col	£118
Epson LQ150 Colour	80col	£159
Epson LQ570+	80col	£188
Epson LQ870	80col	£353
Epson LQ1070	132col	£283
Epson LQ1170+	132col	£407
Epson LQ2550	132col	£879
NEC P2Q	80col	£134
NEC P3Q	132col	£236
NEC P32Q	132col	£245
NEC P62Q	80col	£337
NEC P72	132col	£386
NEC P90	132col	£582
Panasonic KX-P2023	80col	£109
Panasonic KX-P2123	80col	£126
Panasonic KX-P2124	80col	£208
Panasonic KX-P1624	132col	£210
Panasonic KX-P2624	132col	£255
Star LC24-20 II	80col	£113
Star LC24-15 II	132col	£235
Star LC24-30C	80col	£148
Star LC24-100	80col	£95
Star LC24-300C	80col	£178
Star XB24-200C	80col	£315
Star XB24-250C	132col	£385

Ribbons/Ink Cartridges

Type	Black	Colour
Canon BJ10ex/BJ10sx	£15	–
Canon BJ200/BJ230	£16	–
Canon BJ300/BJ330	£11	–
Canon BJC600	£6	£8
Canon BJC800	£16	£22
Citizen 120D+	£4	–
Citizen Swift 200/240	£4	£13
Citizen Swift 24X	£8	£18
Epson LX400/LX850/FX870	£4	–
Epson LX100	£4	–
Epson LX1050/FX1170	£5	–
Epson LQ100	£4	–
Epson LQ150	£4	£12
Epson LQ570/870	£5	–
Epson LQ1070/1170	£8	–
Epson LQ2550	£8	£16
Epson SQ870/SQ1170	£23	–
Epson Stylus 300	£10	–
Epson Stylus 800/1000	£10	–
Epson Stylus Colour	£14	£29
Fujitsu DL1150/DL1250	£5	£7
Fujitsu DL3600	£6	£12
Fujitsu B100/B200	£14	–
HP DeskJet High Capacity	£20	£21
HP DeskJet 310	£13	£21
HP DeskJet 1200	£22	£26
HP PaintJet	£17	£27
HP PaintJet XL300	£17	£19
Kaga/Taxan KP810/815	£5	–
NEC P22Q/P32Q	£8	–
NEC P60/72/P90	£8	£14
Panasonic 1150/1170/1180	£8	–
Panasonic 2180/2123/2124	£7	£15
Panasonic 1624/2624	£8	–
Star LC10/LC100	£5	£9
Star LC200	£5	£12
Star LC24-20/24-100/24-200	£5	£12
Star LC24-30	£8	£12
Star XB24/ZA200/ZA250	£5	£12
Star SJ48	£15	–
Star SJ144 – 3 pack	£18	£18

Roland Plotters

DXY1150	£575	DXY1250	£725
DXY1350	£939	DPX2800	£POA
Sketchmate A4	£335	S/Mate A3	£499

Inkjet Printers

Canon BJ10sx	80col	£141
Canon BJ200	80col	£180
Canon BJ230	132col	£241
Canon BJ300	80col	£322
Canon BJ330	132col	£372
Canon BJC600	80col	£410
Canon BJC800	132col	£1070
Canon BJC820 (Mac)	132col	£1228
Citizen ProJet II	80col	£299
Epson Stylus 800	80col	£177
Epson Stylus 1000	132col	£340
Epson SQ870	80col	£415
Epson SQ1170	132col	£580
Epson Stylus Colour	80col	£399
Fujitsu B100	80col	£145
HP DeskJet 520	80col	£186
HP DeskJet 500C	80col	£247
HP DeskJet 560C	80col	£373
HP DeskJet 310	80col	£166
HP DeskJet 310 & CSF	80col	£205
HP DeskJet 1200C	80col	£1080
HP DeskJet 1200C PS	80col	£1608
HP PaintJet XL300+	132col	£1616
HP PaintJet XL300 PS	132col	£2575
HP DeskWriter 520 (Mac)	80col	£189
HP DeskWriter 560C (Mac)	80col	£375
Star SJ48	80col	£182
Star SJ144	80col	£286

Sheet Feeders

Canon BJ10ex/BJ10sx	£43
Canon BJ300	£88
Canon BJ330	£92
Citizen Swift 24/200/240	£75
Epson LX400	£69
Epson LQ570/LQ870	£47
Epson LQ1070/LQ1170	£89
Fujitsu B100	£59
HP DeskJet 310	£48
NEC P2Q/P3Q	£59
NEC P3Q/P32Q	£85
Panasonic 1170/1180/1123	£59
Panasonic 1124/1124i/2124	£79
Panasonic 1624/2624	£128
Star LC100	£69
Star LC24-20	£69
Star LC200/LC24-200	£69
Star XB24-200	£79

INKJET REFILL PACKS

Canon BJ10ex/BJ10sx - 2 pack	£12
Canon BJ10ex/BJ10sx - 5 pack	£24
Canon BJ10ex - Cart/3 Refills	£29
Canon BJ200 - Cart/3 Refills	£34
HP DeskJet Std Capacity - 2 pack	£8
HP DeskJet Hi-Capacity - 2 pack	£24
HP DeskJet Std Capacity - 5 pack	£14
HP DeskJet Hi-Capacity - 5 pack	£35
HP DeskJet Colour - Cart/4 Refills	£49

Accessories

Citizen Swift 200/240/ABC Colour Kit	£34
Canon BJ10sx Battery Pack	£33
Epson 0K Serial Interface	£29
Epson 8K Serial Interface	£75
Epson 32K Serial Interface	£95
Epson LQ100 Tractor Unit	£29
HP DeskJet FX Emulation Cartridge	£49
HP DeskJet IBM Emulation Cartridge	£57
HP DeskJet 256K RAM Cartridge	£45
HP DeskJet 310 Battery Pack	£33
HP DeskJet Carry Case	£49
HP DeskJet 310 Colour Kit	£28
HP DeskJet 1200 Postscript Upgrade	£499
HP DeskJet Prestige Elite Fonts	£55
HP DeskJet Letter Gothic Fonts	£56
HP DeskJet 310 Parallel Cable	£12
Panasonic Serial Interface	£49
Panasonic 32K Buffer	£16
Panasonic 2180/2123 Colour Kit	£30
Star 8K Serial Interface - LC range	£52
Star 8K Serial Interface - XB range	£39
Star 32K Buffer - LC24/XB24	£52
Dustcovers for 80col printers	£6
Dustcovers for 132col printers	£9
51636G - 50 x DJ500 Transparencies	£35
51838J - 50 x DJ500 Glossy A4 Paper	£35
51630Z - 50 x DJ500 A4 Paper	£15
Appletalk Printer Cable - 2m	£12
51636G - 50 x DJ500 Transparencies	£35
Appletalk Interface for DeskJet 1200	£129
Appletalk Interface for LaserJet III	£189

HP On-site Warranty

Mono DeskJets & Deskwriters	£40
Colour DeskJets & Deskwriters	£85
4ppm LaserJets & DeskJet 1200C	£100
8ppm LaserJets	£185

Manual Printer Sharers

Standard Low Cost Sharers

Connects	Serial	Parallel
2 to 1	£8	£9
3 to 1	£11	£12
4 to 1	£15	£16
5 to 1	£POA	£POA

Professional Sharers

Connects	Serial	Parallel
2 to 1	£12	£13
3 to 1	£15	£17
4 to 1	£24	£26
5 to 1	£38	£38

Crossover Sharers

Connects	Serial	Parallel
2 in/2 out	£28	£29
4 in/2 out	–	£49

Auto Printer Sharers

Uni-Directional

Connects	Serial	Parallel
2 to 1	£27	£29
4 to 1	£44	£45
8 to 1	£75	£75

Bi-Directional

Connects	Serial	Parallel
2 to 1	£POA	£POA
4 to 1	£POA	£POA

256K Multi Spooler

These parallel Auto sharers have built-in 256K buffers.

2 in/2 out	£99	4 in/2 out	£115
8 in/1 out	£149		

Compact Converter

Serial/Parallel Converter	£32
Serial/Parallel Converter & Buffer	£POA

Printer Leads

	2m	5m	10m
PC Parallel	£4	£8	£13
25 'D' Male/Male	£4	£8	£13
25 'D' Male/Female	£5	£9	£14
Centronics D/Ended	£8	£10	£15
BBC Parallel	£6	–	–

Other standard cables available on request

Paper

500sht A4 80g Laser/Copier paper	£2.50
500sht A4 90g Laser/Inkjet paper	£5.50
500sht A4 80g Coloured paper (Pink, Green, Gold, Daffodil, Blue, Vellum)	£3.99
1000sht 9.5" x 11" Fanfold paper	£5.50
2000sht 9.5" x 11" Fanfold paper	£8
1000sht 15" x 11" Fanfold paper	£7.50
2000sht 15" x 11" Fanfold paper	£11
1000sht A4 70g Fanfold paper	£9
2000sht A4 70g Fanfold paper	£15

High Quality Paper
500 sheets A4 80gm pure white ideal for laser & inkjet printers
£5.50

Labels

On continuous fanfold sheets

1000 90mm x 38mm Single Row	£4.50
1000 90mm x 36mm Twin Row	£4.80
1000 90mm x 49mm Twin Row	£4.95
1000 102mm x 36mm Twin Row	£4.70
2400 70mm x 37mm Laser Labels	£15.25

Miscellaneous

80 column Perspex printer stand	£12
132 column Perspex printer stand	£18
80 column Professional printer stand	£15
132 column Professional printer stand	£27
Printer trolley	£39
Economy Computer Workstation	£79
Multiform Paper Feeder	£12
Professional Printer Trolley	£79
Ergo Chair	£29

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- Cub 1440 - 14" Multiscan for Arc £389
- Cub 1450 - 14" Multiscan for Arc £689
- Touchtec 501 for BBC £239
- Touchtec 3000 for Arc £239

Acorn Monitors

- AKF30 14" Med Res RGB £179
- AKF40 14" Med Res RGB £179
- AKF52 14" Multiscan £249
- AKF50 14" Hi Res Multiscan £299
- AKF60 14" SVGA Multiscan £319
- AKF85 17" SVGA Multiscan £989

Multiscan Monitors

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- NEC 4FGe £499
- NEC 5FGe £773
- Taxan 787LR £219
- Taxan 789LR £289
- Taxan 795 Trinitron £489
- Taxan Ergovision 580LR £349
- Taxan Ergovision 685+ £619
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Cables

Monitor Cables

- BBC to Philips 8833 £3.50
- BBC to Microvitec Cub £3.50
- BBC to SCART lead £7.50
- BBC to Phono lead £2.50
- BBC to UHF TV lead £2.50
- Arc to Philips 8833 Mk2 £7.50
- Arc to SCART Stereo lead £9.50
- A3010 to Philips Mk2 £7.50
- A3010 to SCART Stereo lead £9.50
- Arc to VGA Monitor adaptor £9.00
- 15pin to 15pin VGA lead £12.00
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- Single Disc Drive Data lead £4
- Dual Disc Drive Data lead £6
- Single Disc Drive PSU lead £3
- Dual Disc Drive PSU lead £4
- Data Duck - connect 2 drives £14
- Power Duck - connect 2 drives £8

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- 10 x 3.5" D/S D/D £6
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- Master 512 co-processor £49
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Please ring or call in for availability of items.

BBC Books

- Advanced BBC User Guide £5
- Master Reference Manual Part 1 £14
- Master Reference Manual Part 2 £14
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- Complete BBC User Handbook £10

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- 2010 Universal Concept Keyboard £107
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We have a limited number of the original BBC Master 128 computers available at a special price.

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We have a limited number of brand new 30Mb hard drives suitable for the BBC Master or BBC B/B+ with ADFS fitted.

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An IEEE 488 parallel interface for the BBC Micro. Complete with cables and software.

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BBC Software

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- View 3.0 (ROM) £45
- ViewSheet (ROM) £36
- ViewStore (ROM) £36
- ViewSpell (ROM/80T Disc) £28
- InterWord (ROM) £29
- InterSheet (ROM) £37
- InterChart (ROM) £25
- InterBase (ROM) £45
- Mega3 - Word/Chart/Sheet £69
- SpellMaster (ROM) £39
- WordAid (ROM) £20
- View Printer Driver Generator £12
- View Printer Driver (ROM) £29
- Fun School 3 Under 5s (Disc) £17
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- Fun School 3 Over 7s (Disc) £17
- Quest Paint (ROM/Disc) £15
- ConQuest (ROM) £10
- Quest Fonts (Disc) £5
- Quest integrex 132 Driver £5
- Wapping Editor (ROM/Disc) £29
- Wapping Art (Disc) £5
- Wapping Fonts #1 (40T Disc) £7
- Wapping Fonts #2 (80T Disc) £7
- AMX Super Art (ROM/Disc) £10
- AMX Stop Press (ROM/Disc) £10
- Page Fonts for Stop Press £5
- BASIC 2 (ROM) £15

BBC Add-Ons

- 32K Shadow RAM Card £29
- 32K ROM/RAM Card £29
- 64K ROM/RAM Card £39
- 128K ROM/RAM Card £59
- Sideways ZIF Socket System £15
- 16K Static RAM for ROM/RAM £8
- 16K DRAM for ROM/RAM £10
- Battery Backup for ROM/RAM £3
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- Quest Mouse III £15
- Quest Tracerball £20
- Mouse Mat (Red, Green or Blue) £3
- Master Twin ROM Cartridge £8
- Master Quad ROM Cartridge £12
- Data Duck £10
- Power Duck £8

Disc Filing Systems

- Watford 1772 DDFS Kit £29
- Acorn 1772 Single Density DFS £49
- Watford DFS ROM £16
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Archi Spare Parts

- Cased Archimedes keyboard £99
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- Replacement Logitech Mouse Ball £7
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- Function Keystrip Holder £2
- Eject Button for A3000/A3010 FDD £3
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BBC Spare Parts

- BBC B Power Supply £49
- BBC B Casing £10
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- Master 128 Casing £15
- 4816 200ns DRAM £2
- OS 1.2 ROM £15
- Master 128 Keyboard £62
- Master 128 Power Supply £69
- Keyswitches £1.50
- Keytops £1
- UHF Modulator £4
- Master 128 Battery Pack £4
- Video ULA £14
- Serial ULA £14
- 6502 CPU £5
- 6522 VIA £5
- Master ULAs £15

Psion Computers

- Series 3 128K Computer £108
- Series 3 256K Computer £159
- Series 3A – 256K Computer £229
- Series 3A – 512K Computer £269

Accessories

- 128K Solid State RAM Disc £48
- 512K Solid State RAM Disc £97
- 1Mb Solid State RAM Disc £199
- 128Mb Solid State Flash Disc £30
- 258K Solid State Flash Disc £48
- 512K Solid State Flash Disc £79
- 1Mb Solid State Flash Disc £139
- 2Mb Solid State Flash Disc £199
- Parallel Interface Link £24
- Serial Interface Link – PC £58
- Mains Adaptor £12
- Professional Finance £47
- Spelling Checker/Thesaurus £39
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- Canon 9200 £675
- Oki Fax 450 £279
- Oki Fax 1000 £910
- KX-F2300E £345
- KX-F2400E £390
- Pan UF123 £299
- Pan UF128M £385
- Pan UF312 £896

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Due to our latest expansion, we require staff to man our technical support lines for both Acorn and PC products. Applicants should be familiar with Acorn hardware and software. Also experience in repairing and maintaining computer hardware/peripherals would be an advantage as the work may be of this nature sometimes. Good rates of pay and excellent prospects.
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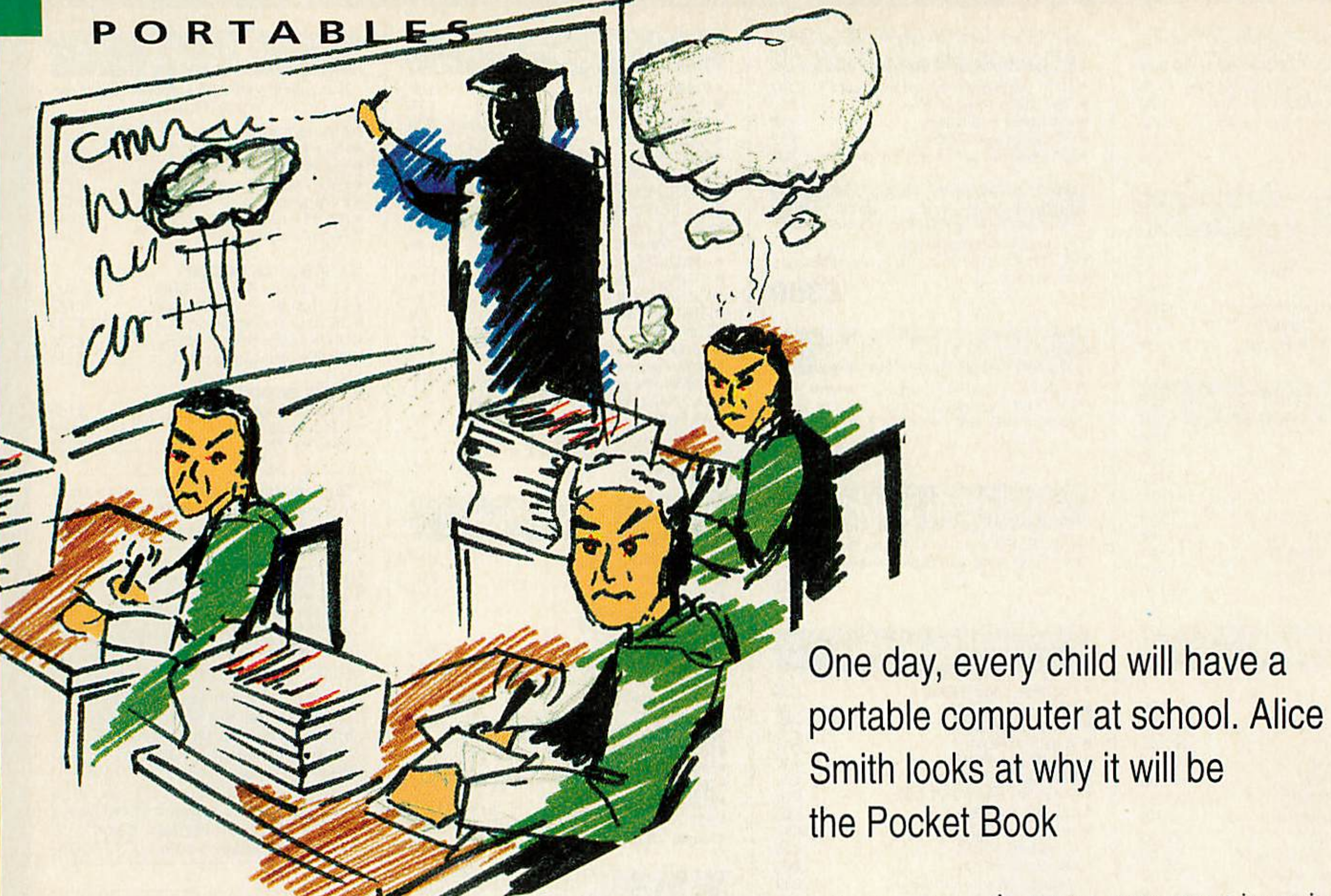
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Access VISA AMERICAN EXPRESS



One day, every child will have a portable computer at school. Alice Smith looks at why it will be the Pocket Book

In the world of business, portable computers are now a common and unremarkable piece of equipment. Most companies seem to have at least one machine which employees can borrow to work on at the weekend, and many executives find them so indispensable that, if their organisation won't provide one, they buy their own.

Could the same thing happen in the world of education? In the future, will children be given custody of a school portable in the same way they take the school hamster home in the holidays? And will parents ever be expected to provide a portable computer in the same way they do a PE kit?

Price of a palmtop

Personal computers owned by individuals, which are carried to and from school and used in different subject areas as and when required, will probably remain optional rather than compulsory. However, for many people the price of a palmtop machine such as the Acorn Pocket Book already makes it affordable as a one-off special purchase.

Some teachers and parents will shudder at the thought of handing over total responsibility for the complete care of a computer to a student, but many schools involved in the National Council for Educational Technology's research project into the uses of portables in education did just that.

The scheme provided participating institutions with varying numbers of portables – both laptops, notebooks and hand-helds. The schools concentrated on different aspects of the curriculum and used the machines in different ways, but a significant proportion took a class set and allocated one machine to every pupil.

Not only could the students use the equipment in lessons, they could take it home too, enabling them to continue with work begun in class, complete homework assignments and simply spend more time than is normally available in school learning the ins and outs of the machine, thus extending their IT skills. Of course there were management issues involved. Most schools which undertook this type of exercise asked parents to attend a meeting where the project was outlined and questions were answered. Some asked parents to sign a formal agreement accepting responsibility for the kit (there were very few instances where parents refused to do this).

Some also ran training sessions for parents, so that they were in a position to give their offspring technical support, although most children soon became far more knowledgeable and adept at

Buying advice for parents

If you're conscious that the number of shopping days to Christmas is fast running out, or if your child has a birthday coming up, assuming little Johnny or Jane has been particularly well-behaved, you may be thinking about buying your treasure a computer – and prices are coming down all the time.

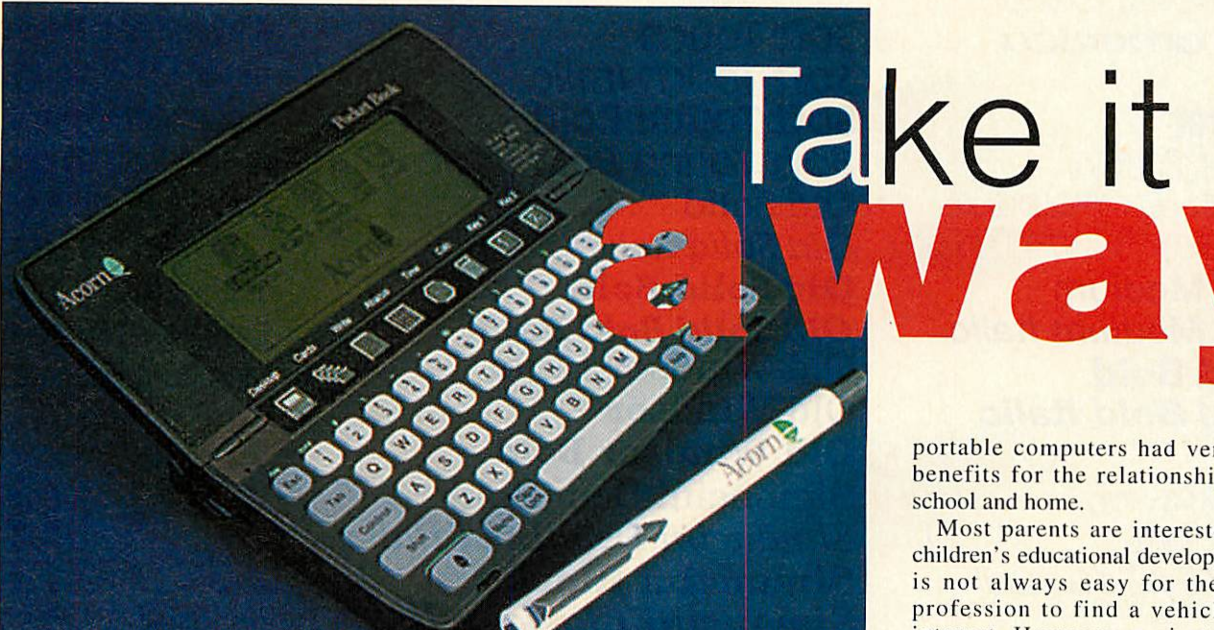
Chances are your child would rather have the latest generation games machine, but a portable will give your offspring kudos in their peer group, while encouraging their academic studies, too.

Compatibility with the system used by your child's school is important – why make things more difficult than you have to? There is a lead for the Pocket Book called an A-Link with which it can be connected direct to a desktop machine, thus giving access to a printer, so if the school uses Acorn equipment, it makes sense to opt for a Pocket Book.

And do think about what extra software your child might need. The Pocket Book comes with a built-in wordprocessor, spreadsheet and database, enabling children to carry out all the basic IT activities, but other programs such as a graphing program and a diary are now available and you might want to buy these.

The best advice is to have a chat with the IT co-ordinator or computer specialist at your child's school and see whether they think it's a good idea.

It's possible teaching staff may be concerned about security issues, or they may feel that, in a busy classroom, they won't have time to provide your child with the technical support he or she may need. However, many will be pleased because pupils with their own machine reduce the pressure on a school's strained IT resources.



Take it away

handling the machines than the adults.

Inevitably, security was also an issue. Luckily, some schools found the machines were covered by their existing insurance, even when they were off the premises, although others had to ask parents to ensure the portables were put on house insurance policies. However, it was proved that the problems were by no means insurmountable.

Pupil response

By and large, schools involved in the research project documented the fact that students responded extremely well to the trust which was placed in them, and that their sense of self-esteem, and their competency and confidence with the computers, rose.

Often this was particularly true for pupils who would previously have been labelled 'difficult'. A similar reaction was also noted with students who had special educational needs.

What's more, some schools found that increased access to IT through the use of portable computers had very definite benefits for the relationship between school and home.

Most parents are interested in their children's educational development, but it is not always easy for the teaching profession to find a vehicle for that interest. However, projects in which parents used the portables at home with their children, and so had a direct input, proved very successful.

Sceptics who say it will never happen should look at the example of the calculator.

Once a flashy but expensive and far from indispensable tool, it is now a piece of equipment which parents are more or less expected to provide for their children. How long before the Pocket Book is viewed in the same way?

What price Acorn Pocket Books?

There will come a time (2005? 1996?) when every school age child who now has a calculator will have their own computer. What is of concern is the interim. Are we going to have a divisive future with teachers struggling to provide for all, while some surge ahead on the back of the benefits that really personal IT brings? Not for long, I think.

Have you noticed what is happening with games consoles? My son Alex got his by coming home and saying: 'Dad, Adam is selling his Sega Master and it's only £50 and it's got seven games with it and it's got a second controller and I've got £15 saved up and can we have it Dad please?' Then one day the Sega Master was sold (again for £50 but now with two more games) and we ended up with a second hand Sega for £75, and that's just been swapped for a Nintendo.

Acorn Pocket Books are sturdy devices and will last well. When Rich Kid trades up to son of Pocket Book, what will s/he do with the old one? Sell it of course, to friends. In only a few years Pocket Books and no doubt the odd organiser handed down from Dad will be within reach of all but the very few.

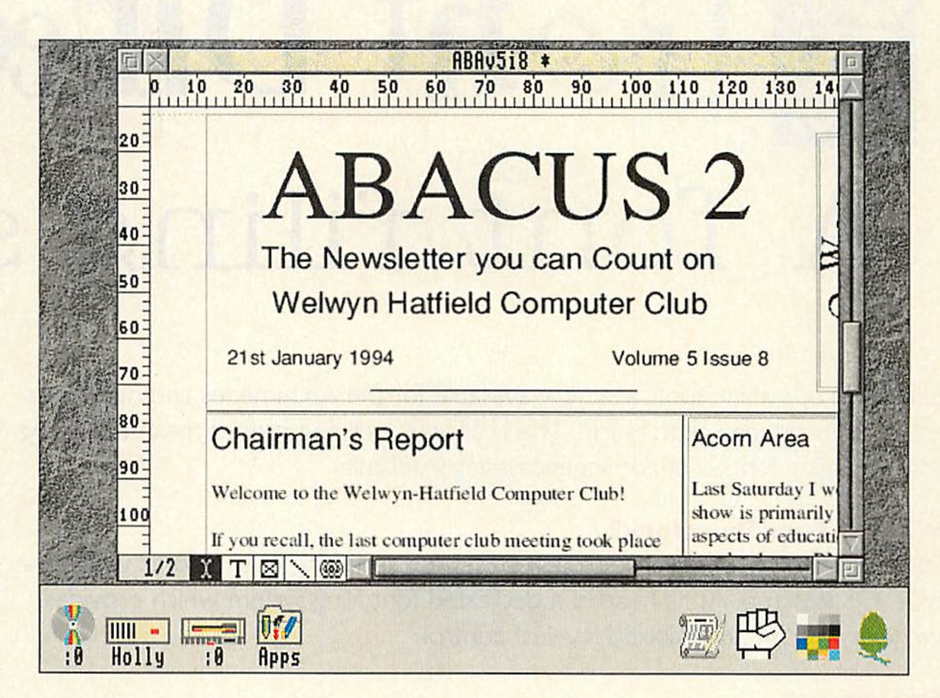
How schools will cope with a range of devices of different ages and capabilities is also an interesting question. Watch this space for some thoughts bearing on that.

Roger Broadie
Education Marketing Manager
Acorn Computers Ltd



Join the club

This month, Chris Jackson goes south to meet the Welwyn-Hatfield Computer Club



After covering a northern club on the July club page, I thought I would look at a club in the London area called the Welwyn-Hatfield Computer Club.

The club was started in 1983 by three young computer enthusiasts, no doubt inspired by the massive, yet friendly, BBC micro market.

A club meeting is held every alternate Friday, and as well as covering the more serious side of computing such as programming and communications, they often run a games competition to see who can get the best score on an online or offline game, and most of the time there is a prize for the winner.

The current chairman of the club, John Stonier, also runs a very well known Archimedes bulletin board called The Digital Databank. At meetings, he allows people to sift through the abundance of PD and shareware software that he has access to via uploads to his system.

The various Acorn bulletin boards like Altered State, the forementioned Digital Databank and a multi-user adventure game called *Shades* are used to demonstrate to members the tremendous benefits of using a modem.

Also, the ever growing Internet is delved into throughout the meetings using the Archimedes application *KA9Q* written by Anthony Frost.

Inquisitive users are shown how to send e-mail and ftp to various Acorn sites around the world, in search of exclusive files. The club produces a newsletter called *Abacus 2* which contains a number of interesting, yet easy to understand articles on a variety of subjects, and is illustrated using the Beebug Scavenger handscanner, the Hawk video digitiser or by utilising the large clipart library that John has acquired through his BBS.

Members who wish to sell their computer system can place a free ad in the newsletter. Some very interesting snippets of information are also in the newsletter, concerning various topics in the computer area such as pre-show Risc PC information.

Entry to the meeting is 70p for a member or £1.10 for a non-member, but if you bring your computer along – which the club is fully insured for – you get an extra 20p discount.

You can become a member for three, six or 12 months costing £1, £2 and £3 respectively, and this will let you take advantage of the excellent club services, like 3.5in discs at the very competitive price of 45p for DD discs, and printer ribbon re-inking. The club organises regular trips to local companies to show the diverse range of uses a computer is put to in differing environments, and has visited DEC (Mainframe computers), CIS (Cambridge International Software) and British Aerospace.

Although users with PCs and other 16-bit computers are welcome to the meetings, it appears that many of the members have Acorn systems, so if you need any help with your setup, there are plenty of knowledgeable people that will be able to assist.

Each meeting starts at about 7:15pm, and the club usually gets to full swing at around 8:00pm. Officially, the meeting should come to a close at 9:30pm, but in practice the last person usually leaves at around midnight. Thankfully, refreshments are available at the meetings, for a nominal fee.

The club is always on the lookout for computer companies, software houses or hardware designers to visit the club or for the club to visit them, and they await in anticipation for their first look at a Risc PC. The club is in the BACC (British Association of Computer Clubs), which offers equipment and public liability insurance cover to this and many other clubs around the country.

Meetings are held every alternate Friday at the Panshanger Youth Club, Herns Lane, Welwyn Garden City, Hertfordshire.

You can contact the club secretary, Mark Empson on (0582) 767540, and he will be glad to inform you of the next meeting date, or any advances to the clubs services.

If you would prefer to just turn up at the meeting, the next after this magazine hits the newstand will be Friday 2nd September. You may have this magazine before the 19th August, but the club doesn't run on the 19th because of the summer holidays.

Let me know

If you would like your club to have a hearing on this page, you can contact me on the Digital Databank BBS on (0707) 323531 (8N1, up to 14k4) under the username 'Chris Jackson', or you can send mail to me at The Club Page, *Acorn User*, Europress Publications, Europa House, Adlington Park, Macclesfield SK10 4NP.

Getting the message across

SUZANNE DEAKIN

James Harrison finds out how Acorn makes sure everyone knows what goes on at Acorn House

Tracking down Kevin Coleman, Hilary Swift or Theresa Bryden – Acorn's Corporate Affairs department – can be a very trying process. Attempt to phone them and more often than not you'll discover that they're at meetings arranging new sponsorships and promotions, organising product launches, and doing the one-hundred-and-one other things that corporate affairs people do.

When I visited them at Acorn to find out exactly what it is that they do, Kevin managed to combine coming downstairs to meet me with grabbing a fax from reception and checking his messages – all in one go.

A short time later while we were strolling up to Teversham – all conference rooms in Acorn's headquarters are named after places in Cambridge – Kevin explained the rushing around; he was organising the launch of the project code-named 'Spinner, or Online Media as it is known today.

When I was commissioned to write this article, I faced the dilemma of what I could write about the Corporate Affairs Department that would be of interest to Acorn users. While Customer Services, examined in detail in the previous two issues of *Acorn User*, is the 'public' face of Acorn, providing a very important service to the end user, Corporate Affairs doesn't at first sight seem to do anything that has a direct bearing on the public. It took me far too long to realise just how important Corporate Affairs is for all Acorn users, but Kevin summed it up perfectly: He, Hilary and Theresa look after Acorn's reputation.

A fiery brand of loyalty

I don't know about you, but I am very proud of my Acorn computer. I share that fiery brand of loyalty that many Acorn owners have towards Acorn. Few things anger me more than seeing Acorn and its products either unfairly criticised or, as used to be more often the case, totally ignored by the mainstream press. The fact that Acorn gets more coverage now is a testament to the work put in by the Corporate Affairs team, and the specialist agencies they work with.

Nothing annoys Kevin more than articles such as that published in a national newspaper about an Acorn-sponsored project in which all references to Acorn had been removed.

This is of course fairly minor when compared to the Power Macintosh launch, when Apple's Power Mac advertisements carried several overly ambitious statements about Apple being the first company to launch a Risc-based personal computer, conveniently forgetting that Acorn had already been selling Risc computers for seven years. In this case, the Corporate Affairs team co-ordinated a global response through subsidiaries and distributors to make sure the information was challenged. This resulted in Apple



From right to left: Hilary Swift, Kevin Colemen and Theresa Bryden

changing its literature and, of course, increased coverage for Acorn at the launch of the Risc PC.

So how does Acorn, through the Corporate Affairs Department, respond to cases such as these, given that it has been said that Acorn has not been very vocal in the past about its achievements.

'Acorn is increasingly telling people of the successes that Acorn has,' says Kevin, 'as illustrated in the features in *The Sunday Times* and *The Electronic Times*. Corporate Affairs works with not only the Acorn press, but a whole wide range of relevant media.'

Partnerships

The one word which pops up most frequently in any conversation with Kevin or Hilary about Acorn is 'partnerships'. Acorn is into partnerships in a big way. Kevin freely admits that Acorn is not a big company in the global scale of things, and does not have the financial resources to do everything it might like to do on its own.

However, one way of increasing impact is to identify major partners with which to work, as this enables resources to be pooled towards a common aim. Witness the success of the Tesco scheme, now in its third year. Possibly the most visible example of partnership is Acorn's successful venture into the professional publishing market with AB Dick, a company of international repute.

What is not necessarily so obvious is the Corporate Affairs also works closely with the Business Units inside Acorn, as well as subsidiaries. For example, Corporate Affairs handles the public relations work for Online Media, Acorn's new organisation (see News last month). This co-ordination ensures that common information is provided to Australia, New Zealand and Germany, to be used for their own local purposes.

A final example of Acorn's commitment to partnership is in the setting up of round table meetings on the subject of New Literacy. These are bringing together like-minded people from the DfE, the CBI, education, the National Literacy Association and other interested companies, such as BT.

Building awareness through actions

Kevin and Hilary spend much of their time talking to and working with people who can help Acorn, trying to build awareness of Acorn through actions. In addition to this, Acorn also employs public relations agencies such as Text 100 and AD Communications to promote Acorn products in specialised markets.

Text 100 is the leading IT public relations company, who works with Acorn in its core education and consumer markets, as well as representing Acorn in Germany. AD Communications knows everybody you need to know in publishing, and makes sure they know about Acorn.

Acorn uses sponsorships to get the Acorn message across, prime examples being the Department of Health campaign against substance abuse, and the *MicroScope* magazine published by Newman College and MAPE: Acorn sponsored *MicroScope*'s multimedia issue which covered a wide range of computer systems in addition to Acorn products.

Acorn and the press

Acorn has developed much stronger associations with a wider range of media over the last year. Acorn appears on national radio and television, and local radio. In particular, Capital Radio, and local services in Cambridge and Nottingham have carried items on Acorn.

If you read more than one Acorn magazine on a regular basis, you will probably have noticed that since the beginning of this year coverage of new Acorn products, events and promotions has been much more comprehensive than in the past.

This positive change has come about because of a decision by Corporate Affairs towards the end of last year to open up Acorn to the press, with the result that Acorn is now extremely press-friendly. The press has a much greater access to Acorn people, such as Sam Wauchope, and Acorn is now much more willing to provide spokespeople on specific topics. Theresa also runs a photo library which journalists can access.

In addition to handling the never-ending demands of journalists, Kevin, Hilary and Theresa also host regular press days at Acorn. Every three months or so about ten key journalists in the Acorn market, including the editors of all the Acorn magazines, sit down in Acorn's boardroom and are briefed on the latest Acorn news, forthcoming products and events.

The meetings serve several purposes other than just being news-gathering events. At one end of the scale they provide the journalists with an insight into Acorn's corporate strategy and future planning.

At the other end, and much more importantly, they provide the journalists with an opportunity to quiz Acorn on issues which will be of relevance to you. For example: why are Risc PCs in such short supply? Is Acorn going to be releasing such-and-such a product? When? Our readers are complaining about this – what is Acorn going to do about it? And so on.

What is discussed at these meetings is usually top secret, and the journalists who attend them have to sign non-disclosure agreements preventing them from revealing any information before certain dates or events.

Although it might seem unfair that journalists get to hear all the news before you do, just remember that magazines are prepared two to three months ahead of publication dates.

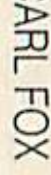
Good public relations

Acorn's PR has been moving in the right direction over the last year. This is in part due to the efforts by the Corporate Affairs team, but as Kevin recognises, it is mainly due the the willingness of all parts of Acorn to get behind the activities.

It seems that Acorn has realised the power of good PR, and the Corporate Affairs department is using it well.

World Crea

Graham Nelson explains how you can produce your own Adventure games



Be warned: creating adventure games is a dangerous obsession. Legend has it that Scott Adams (who wrote the old *Adventureland* games in the late 1970s) so annoyed his wife that she put his discs in the oven.

Because all adventure programs are basically similar inside, many people have devised special compilers and languages for writing them to save duplicating effort.

About eight are in public use over the university networks: of these, perhaps two are widely used. The most popular, *TADS*, is unavailable for the Archimedes. The second is *Inform*.

Between this and next month's cover disc, contains a full working copy, complete with manual (including a beginner's guide) and examples.

Inform produces games in a standard format which can be run on almost every computer, given an 'interpreter' for that machine. A suitable Archimedes interpreter, *Zip*, appeared on last month's cover disc.

This article looks first at how a computer stores the state of an imaginary world, and then how it alters it in play.

The landscape

An adventure game simulates the world, from its mountains and plains to the people who live there. It includes only the most significant details, leaving the player to imagine the rest. If a dragon is lumbering towards you, the game says so, without describing the clouds in the sky or the grass on the next hillside but one.

To simplify the landscape it is broken up into *locations*. For instance, the kitchen of a house, a cave filled with a rock pool or a cliff-top path might all be single locations. Any two things in a given location – say, a fridge and a bag of flour – are considered to be in the same place.

Our hero, or heroine, always carries a compass because the easiest way to describe the layout is with compass bearings. So the *map* of the game is a collection of locations with compass directions between. Because the world is three-dimensional, 'up' and 'down' are added to the compass, and often 'in' and 'out' are also included as directions.

For each location the computer has to store a number of pieces of information. Apart from the map connections to other places, there will usually be a short name (e.g. 'Rock Pool Cave') and a longer description for the player to read. There may also be flags like 'it is usually dark here' or 'there is water available here'.

If locations simplify a landscape, objects simplify the way the world changes as the game goes on. The cliffs and meadows remain but the player walks about, picking up a rock or chasing away a cow. The things which move or change are *objects*: the rock, cow and player are objects.

The computer needs to remember where all the objects are, and to be able to keep track of them. So each object has a current position, a number which means either a location or another object. For instance, a key's position might be the player; the player's position might be the cliff ledge.

The whole picture of where the objects are is called the *object tree* and can get quite complicated. The language is borrowed from family trees, so the position of an object is called its 'parent', while the objects it contains are called its 'children', and so on. When an object moves, all its children move with it.

Objects also have descriptions and flags, such as 'this is too heavy to carry' or 'this is edible'. Some also have their own private variables: for instance, a lamp keeps track of how much oil it has left.

Time and Actions

In real life, time is also a detailed matter. It takes 20 minutes to walk to my office, about five seconds to open the Venetian blinds and only one second to pick up a piece of chalk. Once again this detail is unwanted, so time is simplified to a sequence of *turns*.

One turn is the time taken for a player to do anything simple: to pick an object up, look closely at something or walk from one location to another. So the heart of the program is an (almost) endless loop of turn after turn.

Each turn, the player types something in English and the Parser converts this into just an action and the objects the player wants to act on, i.e. to three numbers.

The Parser is the most complicated part of the program by far. There may well be 150 different actions, most of which can be expressed in several different ways; some games know up to 2000 English words.

A good Parser can even guess what a player really means when the input is vague or ambiguous, and can sort out requests like 'empty the rucksack onto the table' into a sequence of individual actions. At the end of each turn the

The simple loop

At the heart of an adventure program is a simple loop:

1. Welcome the player, and describe the initial scene.

2. Ask the player what to do, using the Parser. Keep asking until something makes sense.

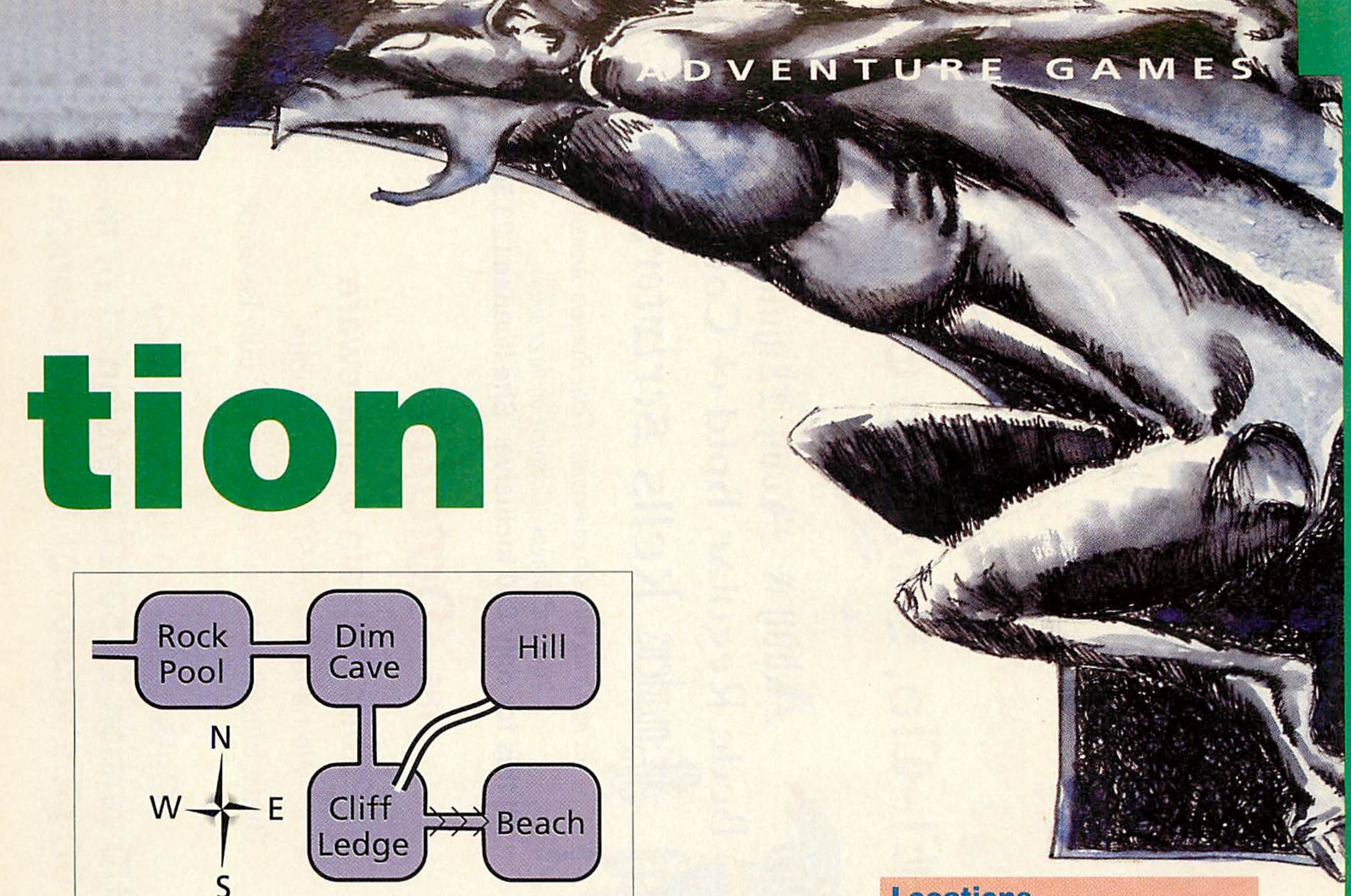
3. Carry out what the player asked: print out descriptions of what happens, move objects about or change their states.

4. Stop here if the player has died or won the game.

5. Otherwise, add one to the number of turns, move other people around and take care of any timed events which should happen now.

6. Go back to number 2.

tion



The entrance to caves inside sea cliffs, represented by five locations. You can slide down east to the beach, but not back up. The actual edge of the cliff runs across the drawing, but the computer only stores the locations and map connections

computer moves around any characters it may be playing (say, a nasty little dwarf which pursues the player) and makes timed events happen (for example, a hand grenade may go off five turns after the pin was pulled out).

Rules and exceptions

For every action the game has a standard way to behave. For instance, if the player wants to go east, the computer looks up the 'east' map connection of the present location.

If there isn't one, it prints 'You can't go that way' and stops. Otherwise it moves the player object and prints out a description of the new location. If only the standard rules ever applied it would be a boring, empty game.

The player could walk around picking things up, looking at them, moving them, perhaps opening or unlocking doors on the way: but nothing unexpected would happen.

Instead, the game's designer will write special exceptions to the rules. A boomerang, if thrown away, will return to the player; a clove of garlic will frighten a vampire bat; a glacier is so cold that the player cannot stay long without freezing to death.

Each of these exceptions needs a little sub-routine of program attached to the object or location in question.

There are two kinds of exception: *before* and *after* the usual rules apply. For example, *before* the Drop action for a ball covered in glue can happen, it sticks to the player's hand.

But *after* the Drop action is applied to a Ming vase, it smashes onto the ground.

Since the standard rules never change, it follows that a game is really described by definitions of locations and objects, together with some exceptional rules.

This is how *Inform* works. The game designer doesn't need to waste any time programming the standard rules or the Parser – both long and fiddly jobs. This also makes *Inform* code concise and legible, given a little practice.

Conversions

The Parser listens to the player and converts English text to a few numbers. It knows many different ways of phrasing commands and describing objects.

The player types:	Action	Noun	Second noun
north	go	north	
take the magic rod	take	magic rod	
take off the shawl	remove	shawl	
put the battery into box	insert	battery	junction box

Locations

The following is a definition of a typical location in Inform code. There are both short and long descriptions, three map connections (only two going anywhere), the corridor is lit up and it has a special rule applying only here in the corridor:

```
Object Corridor "Sloping Corridor"
with description
"This corridor slopes upward out of
the square room: the \
floor underfoot is a little sticky,
like half-dried glue.",
s_to Square_Room,
d_to Square_Room,
u_to "The slope becomes impossibly
steep, and you retreat.",
before
[; Take: "The floor is so sticky you
cannot pick anything up.";
],
has light;
```

Getting started

Once *Inform* is up and running on your machine, and you have tested it by compiling and playing the example games, try following the tutorial at the beginning of the Designer's Manual. A good exercise is to then program your own house, with a few things to do inside it.

But do be warned: it is a dangerous obsession. You too may find yourself at the town library, looking at a plan of a Napoleonic fort or the front page of The Times for a day in 1923.

You too may come home to find your discs in the oven.

C for Yourself

This month David Matthewman explains the syntax of the C language.

Although the syntax of the language C is fairly straightforward, it is worth getting to grips with it before attempting to write complicated programs.

Like Basic, C programs are made up of a list of instructions. In Basic, instructions are separated either by a newline character or by a colon.

In C, intstructions may flow over several lines, so the newline character cannot be used.

Instead, C instructions are separated by a semicolon, which must be present. There may be many instructions on one line, and one may flow over several lines. For instance both:

```
hyp = x**2
    + y**2
    + z**2;
len = sqrt(hyp);
```

and

```
hyp = x**2 + y**2
+ z**2; len = sqrt(hyp);
```

are equivalent legal pieces of C code: the newlines are effectively ignored.

Statements and declarations

In C, there are two types of instructions: *statements* and *declarations*. Before a variable – or a function – can be used, it must be *declared*.

This is similar to a **DIM** statement in Basic, as it reserves memory for the variable, but unlike Basic it must be done for *every* variable and function used in the program.

The declaration also establishes the *type* of the variable: integer, real, pointer and so on.

This is the purpose of the header files mentioned last month; they declare the standard library functions.

We will look in more detail at what variable declarations are available, but for the moment it is sufficient to know that they generally occur at the start of functions or program fragments and have the form:

```
<var_type> <var_list>;
```

where the variable type is a word such as **int**, **char**, **float** or **struct**, to name but four. Many variables of the same type may be declared in one instruction by separating them with commas, but the instruction must end with a semicolon.

Statements are more familiar instructions to the Basic programmer. They are the ones which actually do something: variable assignments, loops, **if** statements, functions and so on.

Instructions may be labelled. A labelled line has the form:

```
label : instruction;
```

and is generally used in conjunction with the dreaded **goto** statement. However, labels are also used with the **switch** statement, and there is nothing to stop them being used to break up the code and act as a primitive form of comment.

Grouping commands

Often you will want to group C commands together, for instance inside a loop, as part of an **if** statement or in a function. To do this, the statements are enclosed within *braces*, { and }.

All individal statements within the braces must end with a semicolon, but there is no need for a semicolon after the last brace.

Conventionally, each time an opening brace is used, the text in the source code is indented.

The text is un-indented by a similar amount for each closing brace. This is not enforced by the C compiler, but is good practice as it makes it much easier to match opening and closing braces.

Program layout

In the text I mention some conventions used when typing in C programs, which may be illustrated in this short program fragment.

```
int function_name(int arg)
{                          /* Opening brace:                 */
  int i,w;                 /* Lines now indented.            */
  for (i=1;i<10;i++)
  { w=other_func(arg+i);   /* Lines indented again for loop.*/
    if (w==TRUE)
    { do_something(); }    /* The 'true' and 'false'         */
    else                   /* actions are both enclosed      */
    { do_nothing(); }      /* within braces and indented.    */
  }                        /* End of loop: un-indent.        */
  return w;                /* (Note: all comments aligned).  */
}                          /* End of function: un-indent.    */
```

Many text editors, *StrongEd* for instance, have a facility to match braces automatically.

When a closing brace is typed, the editor will briefly move the cursor to the corresponding opening brace, or beep if no opening brace can be found.

Comments

Comments are ignored by the compiler, and are used to remind you or anyone else about the salient features of a piece of code.

They can also be used to temporarily remove – 'comment out' – a fragment of code which you do not wish to be executed when testing a program.

In C, comments are started by /* and ended by */. Any text between these two character sequences is treated as a comment and ignored by the compiler. Nested comments are not allowed, so for instance:

```
/* This is a /* nested */
comment */
```

will make the compiler unhappy.

You cannot put comments inside strings either. The compiler will not recognise them as comments and will treat them as part of the string.

Comments do not require a line of their own, and unlike Basic **REM** statements, comments may also be followed by statements on a line.

It is good practice to align a series of comments so that they start from the same position on the line, as this makes it easier to see what is and is not comment.

To the C compiler, of course, this is irrelevant, but there are plenty of reasons for writing well-written code.

Preprocessor instructions

Preprocessor instructions, as explained last month, are executed before the program compiles. They can occur anywhere in a program, but are commonly bunched up at the start. They all start with a # character, for instance:

```
#include <stdio.h>
#define TRUE 1
```

As you can see, unlike standard C instructions, preprocessor ones are ended with a newline character rather than a semicolon.

However, if the last character on a line is a backslash, \, the line is concatenated with the next line, so they may be split over several lines if they are two long to fit on one. Only one instruction is allowed per line, however.

By now, you should have enough knowledge about the syntax of C to be able to look at a C program and say 'this is a comment' or 'that line will be interpreted by the preprocessor', even if as yet you won't have a clue what the program actually does.

This is vitally important; until you know how to parse a C program correctly, it can be a daunting jumble of characters which appear not to make much sense.

Next month I will take a first look at variables, with a discussion of what types are available in C and an examination of some of the operators available to manipulate them.

Cover disc

This month's cover disc has six C programs which are (hopefully) unusual in that they all contain syntactical errors – a missing semicolon, for instance – and in most cases will cause the program to fail to compile. Even if you are unsure what the program is meant to do, you should, with care, be able to spot all the errors.

If you have a C complier, it is worth compiling the programs to see what errors are generated. Sometimes the error will appear to be in another line to the one which actually contains the error. For instance, with a missing semicolon at the end of a line, the compiler will usually notice the error when it attempts to compile the *next* line.

Next month I will explain what was wrong with all the programs.

Well commented code

It is good programming practice to scatter comments liberally throughout your code. Not only does this enable other people to follow what you are up to, it serves as a reminder to you, and makes the code much easier to debug.

In practice, hardly anyone uses comments to the extent that they should. There are a number of reasons for this:

Mystique. Programmers who have just written a particularly neat, concise or gnomic piece of code may feel that – like a good joke – it will be spoiled if they explain it.

Haste. Writing comments is time consuming and, as comments add nothing to the actual operation of the program, many programmers feel that their time could be better spent.

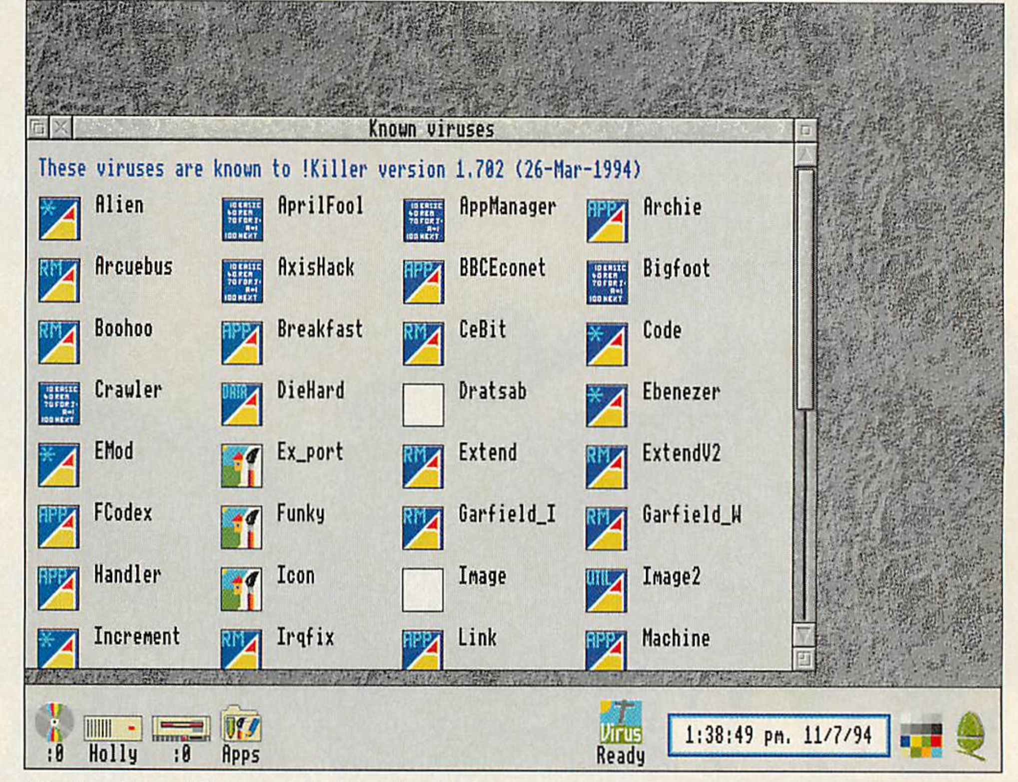
Hubris. It is beneath programmers to comment their code; any gibbon can do that. Writing manuals is similarly looked down upon, as in some cases is creating a decent user interface.

Memory. Many programmers who started life programming a ZX80 get worried by the tendency of comments to double the size of a C source file. These people also never indent their code, use variables with names like 'a' instead of 'template_file_handle', and tend to use 'INT(PI)' instead of '3' to 'save a byte of storage'.

That's no excuse for you to do the same, though.

QUESTIONS & ANSWERS

The shutdown procedure, upgrading A3010s (again), multiple floppy drives on a Risc PC and viruses, along with some more quick tips



Killer from Pineapple keeps your hard disc virus-free.

Q I have an A3000 computer which had Risc OS 2 until lately, when I upgraded to Risc OS 3. I find it very inconvenient to have to shutdown every time I finish using the computer. I don't have a hard disc, and so do I really have to shut down the computer? What is the reason for shutting down?

Peter Martin
London

A **The shutdown procedure 'tidies' the desktop before the computer is switched off, and in doing so protects you from the consequences of switching off in the middle of something important. Parking the heads on the hard disc and dismounting it is only part of this.**

The shutdown procedure will also attempt to quit all active applications, which should then warn you if they have unsaved data.

You will not damage your computer by switching it off without shutting it down, but I do wonder if typing Ctrl-Shift-F12 is really such an effort, given that it stops you switching off your computer without saving all your files.

On a related issue, ignore the 'Restart' button in the shotdown window on pre-Risc PC machines. The button doesn't actually completely reset the computer, errors can occur, and any programs which you normally run when you boot up probably won't be run. Use Ctrl-Reset instead.

On a Risc PC, 'Restart' *does* restart the machine, so you should use it.

Q There ia a rumour going round that the Risc PC – Acorn's great expandable machine – will not allow you to connect more than one floppy disc drive. Is this true, and will existing buffering hardware for 5.25in discs not work on the Risc PC?

Graham Hound
Pickering

A **Sadly this does seem to be the case. The pin on the floppy controller in the Risc PC which would enable more than one disc drive to be controlled is not connected to anything, not even to a track on the circuit board which a third party developer could use to attach their own multiple drive board.**

While it is questionable whether more than one floppy drive is needed in a machine with a 210Mb hard disc, it sits ill with the general philosophy of the Risc PC, which is that people are free to expand it how they want. In any case, there are users with 5.25in drives, who will be unable to attach them to the new machines.

It will be possible to attach extra drives on an expansion card which plugs into the DEBI expansion slots, but this does seem an excessive solution.

Q I have an A3010 and wish to expand it, in particular with a large hard disc. I know that I can fit an IDE hard disc to the expansion slot, but I am worried that this will only allow small 2.5in drives to be fitted, and I will be unable to expand my machine further, for example with a scanner. Is this possible, or will I need a better machine?

Tony Chandler
Rempstone

A **This is entirely possible, and there are a number of ways of doing it. Solutions involving an internal 2.5in IDE drive are available up to 250Mb in general. External SCSI drives can be larger, and are often cheaper than IDE equivalents. Drives over 512Mb will need to be partitioned, as that is the maximum size that the filing systen in an A3010 will recognise.**

Cumana on (0483) 503121 does an expansion card called the EMU. This fits into

the expansion slot inside the A3010. The board itself can provide an IDE interface to an internal 2.5in drive. If this is not enough for you, you can plug a SCSI 2 interface into the board and attach an external SCSI. The board will take up to three expansion boards, including an SLCD CD-Rom interface and User Port.

HCCS on 091-487 0760 produces the Ultimate Expansion system. This also plugs into the internal expansion slot, and comes with an IDE interface and space for two micropodules.

Micropodules available include SCSI, MIDI, Scanlight 256 and CD-Rom. As with the EMU card, you can have up to 250Mb on an internal 2.5in IDE drive, or much more on an external SCSI drive.

Atomwide, (0689) 838852, provides a totally different solution with its SCSI adaptor which plugs into the printer port.

This is available in two versions, one providing a SCSI bus and the other allowing normal printing to take place as well. SCSI drives up to 2Gb, scanners, CD-Rom units and tape streamers can all be plugged into this adaptor, and the single expansion slot inside the A3010 is still free. Ingenious though this solution is, it is relatively slow.

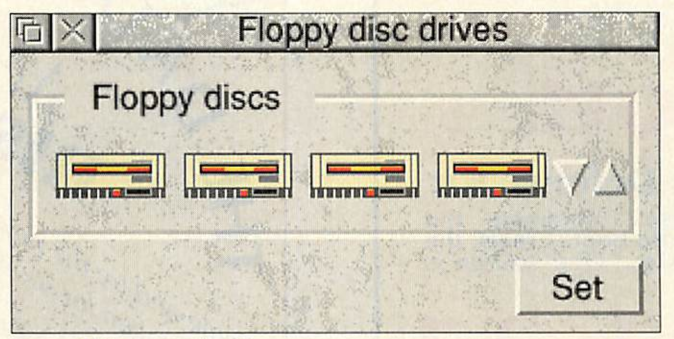
Probably the fastest option – which will however tie up the expansion slot – is the Alpha TurboSCSI card from The Serial Port on (0749) 670058.

This is a 16-bit SCSI card which uses buffering to alleviate the speed problems of data transfer across the 8-bit expansion slot.

As this is a SCSI sysem, CD-Roms and scanners can also be attached in parallel with the hard disc.

The HCCS, Cumana and Serial Port expansion systems can be used on all single-slot machines: the A3000, A3010, A3020 and A4000.

The Atomwide printer port SCSI adaptor can be used on all machines with a bi-directional printer port: A3010, A3020, A4000, A5000, A4 and Risc PC.



Not available on the Risc PC

Q I have a SCSI hard disc which has until recently given me no problems. I recently upgraded several applications, including *ArtWorks* and *Hearsay*, and also installed a set of fonts from The Datafile. I now find that these applications take over twice the normal time to load, and the machine is very slow to boot up. Is it possible that I have become infected by a virus?

If so, can you reccomend any virus protection software which I could use?

Jeremy Coward
Knightsbridge

A It is indeed *possible* that you have been infected by a virus, and by far the best virus protection software for the Archimedes is *Killer*, from Pineapple software (081-599 1476). This is available for a registration fee of £24 per year and is constantly updataed to detect the most recent viruses.

However, since you say that you have recently added a large number of fonts to your system, is your hard disc becoming at all crowded? Working on a hard disc with only a couple of megabytes free, constantly having to delete files to free up space, can cause the hard disc map to become fragmented. Your files become scattered over many small sectors of the disc, and naturally take a while to load. Fonts can be a problem, as they occupy a large directory structure.

Normally, this doesn't happen on E-format discs unless they become very close to full, because Risc OS is intelligent about not fragmenting the disc. Some hard discs may have been formatted in D-format – these *will* need compaction from time to time.

It is a more common problem on other systems, and there are programs to counter it by moving files around the disc until they are unfragmented. Unfortunately, probably because it is a rare problem, I know of no comparable programs on the Archimedes.

The situation may improve if you free up more space on your hard disc.

Quick tips

In case you didn't know...

Basic

● The @% pseudo-variable: If your real variables constantly print as 4.999999997, or some similar number, then you need to know about @%. The setting of this variable affects the formatting of numbers outputted using the PRINT statement, and also can affect the formatting of numbers converted using STR$, which is useful for putting numbers in to an icon.

@% is a four-byte number. Byte four, the MSB, determines whether or not STR$ is affected by @%; if it is non-zero then the output from STR$ is affected. Byte three controls the format used, byte two the number of digits (the exact interpretation of this depends on the format in byte three) and byte one controls the tab width when printing variables separated by a comma. For instance a setting of:

```
@% = &0102020A
```

affects STR$, has a format setting of two (fixed number of digits after the decimal point), two digits after the decimal point and a tab width of ten.

● Crunched programs: There are a number of applications around which will 'crunch' a Basic program, reducing its size dramatically, and making it that bit harder to see how the program works. *Never* do this without keeping a copy of the original.

Many of these applications remove spaces around keywords, which works fine until you load the program into a text editor and then try to save it again. At this point, the editor will be unable to re-tokenise the program, and the only solution will be to go through the entire program inserting spaces.

● Task windows: Non-Wimp Basic programs will normally take over the desktop when run without multitasking. However, many programs do not really need to do this, and can be run in a task window. Such a program can be put in a standard application directory with a *!Sprites* file. The *!Run* file should end with the line:

```
TaskWindow "Run <MyApp$Dir>.MyApp" -wimpslot 128k -name My_App -display
```

where 'MyApp' and the figure of 128K should be changed according to your setup. This works for any non-Wimp operation, not just Basic programs.

Acorn Customer Hotline

Essential information for all Acorn Users, compiled by Dave Walker of Acorn Customer Services



Questions and Answers

My Apps icon has disappeared from my icon bar. How do I get it back?

You need to go to the command line (F12) and type:

```
*UNPLUG
```

to find out which modules are unplugged; one of them will be Resources. Re-install them using:

```
*RMREINIT <module name>
```

I can't fit all my PC applications onto a single 32Mb partition, and I don't want to use multiple partitions; can I make a partition larger than 32Mb?

Yes, you can. However, you won't be able to access the partition using DOSFS under Risc OS; partition access will only be available in the PC environment.



The secret life of *!System*

Many of your everyday programs use relocatable modules such as the Shared C Library; a lot of these are kept in *!System.Modules*. Your machine is informed of the location of *!System* by *!System.!Boot*, in the lines:

```
If "<System$Dir>" = "" Then Set System$Dir <Obey$Dir>

If "<System$Path>" = "" Then Set System$Path
<System$Dir>.
```

which first sets up the variable **System$Dir** to point to the location of *!System*, and then sets up **System$Path**, which is the variable applications should use as the start of the path they require to access modules.

The modules in *!System* may be supplanted or updated either by copying the modules directly into *!System.Modules* or, preferably, by running *SysMerge* and dragging the relevant copies of *!System* to facilitate copying.



A4 Battery hints

We have recently investigated how best to maintain the performance of the A4 Nickel-Cadmium rechargeable battery. Our results suggest the following:

After every few charges, try to discharge the battery completely before recharging it. This can be done, once the A4 has prompted you to save your work and switch off, by saving your work and then leaving the A4 switched on for another two hours or so.

When the battery is recharging, it tends to get warm. The charging capability of the battery is best if it is kept cool while charging, and it makes quite a difference if an airflow can be maintained over the battery while it is charging, so that it can radiate some of its heat to the surroundings.



Video support on the Risc PC

Table 1 gives information on the range of Acorn monitors and standard resolutions supported by Risc PC with all VRam configurations, and examples of typical backward-compatible numbered screen modes which display these resolutions.

	Resolutions						
Pixels:	640x256	896x352	640x480	800x600	1024x768	1280x1024	1600x1200
Standard:	(CGA)		(VGA)	(SVGA)	(XGA)		
Equivalent Screen Modes	12/15	39/40	27/28	31			
Monitors							
AKF30/40	✓	✗	✗	✗	✗	✗	✗
AKF50/52	✓	✓	✓	✓	✗	✗	✗
AKF60	(Letterbox)	✗	✓	✓	✓	✗	✗
AKF85	(Letterbox)	✗	✓	✓	✓	✓	✓
Video Memory	Number of Colours Displayable						
No VRAM	32k	32k	256	256	16	-	-
1Mb VRam	32k	32k	32k	32k	256	-	-
2Mb VRam	16M	16M	16M	16M	32k	256	16

Table 1: Screen modes supported by various combinations

It is possible to run a 1600x1200 screen mode on a machine with 2Mb Ram. This will take VIDC20 above its specified clock rate and hence must be carried out at a customers own risk.

Acorn does not ship this monitor definition file as standard. However, if you would like to experiment with a 1600x1200 screen mode the definition file can be obtained for AKF85 owners by writing to Acorn Customer Services.

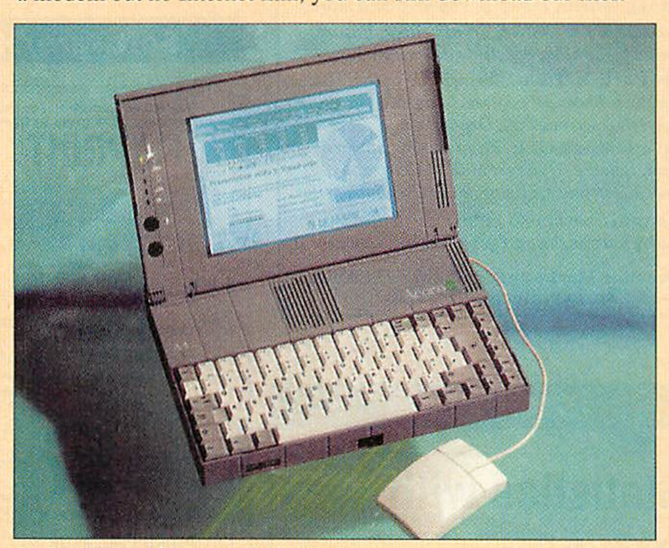


Changes to ftp.acorn.co.uk

These are now listed in */pub/ChangeLog*; the biggest change since the comms column in the May 1994 issue is that the ',ddc' archive file endings have been replaced with '.arc'.

In addition to fixing the lists problem under VMS, this means that WWW browsers such as *xmosaic* recognise binaries as binaries.

ftp.acorn.co.uk is being mirrored by Arcade BBS on 081-654 2212 and Digital Databank BBS on (0707) 329306, so if you have a modem but no Internet link, you can still download our files.



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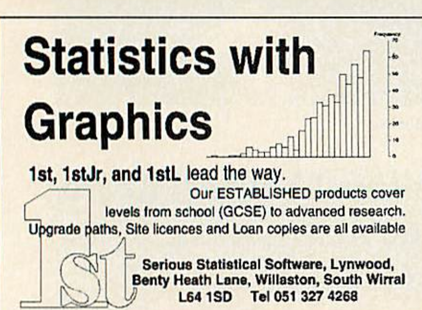
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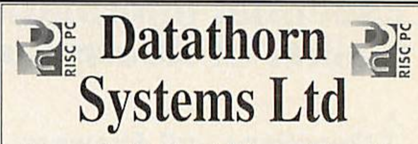
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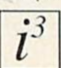


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*INFO

Dave Lawrence and Dave Acton continue their monthly look at programs, for all Acorn Users

Driving yourself Dizzy

This little demo from Simon 'Henley' Morris will really show off the speed of your Arc. There have been quite a few demos of the 'spinning balls' type, but *Dizzy* is a particularly fine example of the genre.

As Simon points out, regular readers may well notice a similarity between *Dizzy* and Tim Jones' *Dots* from April 1993. The latter did indeed inspire the former and the first nine shapes are mostly Tim's work.

The demo runs at 50 frames per second on A5000s and faster machines. If you have an Arm2 or Arm250, some of the more complicated shapes may be shown at 25 fps, but should still impress nonetheless. When running, hold down Space for a new shape. Return pauses and Escape quits.

Each 'ball' is initially given four pieces of information, a colour and three co-ordinates – **x**, **y**, and **z** (depth). The colour is from one to six – red, yellow, green, blue, cyan and magenta – and is multiplied by &600 to assist the plotting routine, as this is the offset for each different coloured ball.

Each ball is 16x16 pixels, and in mode 9 one word (four bytes) contains eight pixels. There are eight versions of every ball, one for each position within a memory word.

Thus we can address the screen in words rather than bytes, allowing a great speed increase. The actual plotting width for the sprite routine is 24 pixels (three words) to allow for overflow with each x offset.

In each frame, we must:

a) Clear the screen
b) Rotate each ball about two axes
c) Add perspective and transform to a 2D plane
d) Sort all the balls by depth
e) Plot all the balls in order, from back to front.

There are many ways of applying rotation to 3D co-ordinates. *Dizzy* makes use of two relatively simple formulae that provide combined rotation about the x and z axis.

These were chosen somewhat arbitrarily, and in fact could be any other combination of x, y or z, but for reference they are provided here in mathematical form.

Where **x**, **y**, and **z** are input coordinates, **x'**, **y'** and **z'** are the output coordinates, **angle** is a degree value, **s** and **c** are short for **SIN(angle)** and **COS(angle)**:

X Axis	Y Axis	Z Axis
x' = x	x' = x*c+z*s	x' = x*c-y*s
y' = y*c-z*s	y' = y	y' = x*s+y*c
z' = y*s+z*c	z' = z*c-x*s	z' = z

Once we have derived our new rotated set of coordinates, we must then apply a further transformation for display within a two dimensional plane. Perspective is applied using the following formula to give an illusion of depth:

```
x2D = (x*scale) / (z+rho)
y2D = (y*scale) / (z+rho)
```

Here, **x**, **y**, and **z** are 3D input coordinates, **scale** is an overall size factor (or viewing distance) and **rho** is the perspective constant.

Dizzy uses a lot of 'tricks' to gain speed. One such trick removes the need for any division (a sadly absent Arm instruction) with the above transformation and is based on the theory that all division can be replaced by multiplication by using a table – if there aren't too many possible values you wish to divide by and you have enough Ram. The final hurdle is to sort the balls by depth before plotting. *Dizzy* uses a 'bin' sort. It works by creating a set of 'pigeon holes' for every possible value that may exist within the data to be sorted. In the case of *Dizzy*, we are only concerned with sorting each balls' z coordinate, and as these have an imposed limit of -160 to 159, we reserve 320 spaces.

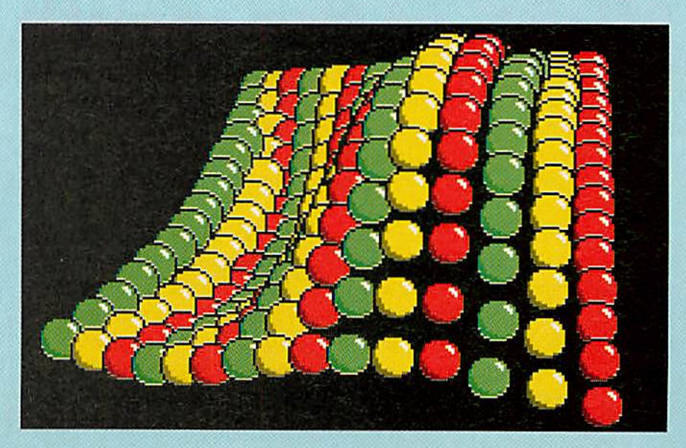
The sort routine then scans through the coordinates and slots each z into its respective address. Having done this, it is a simple matter of scanning through the list from -160 to 159 and plotting the relevant ball from each address, which is already depth sorted.

But what if there is more than one ball with the same z coordinate? The solution is to reserve another set of pigeon holes in the guise of a stack, to contain any overflow.

So now, when we come to place a z coordinate into its allotted address, we must first check that there isn't already something in there. If the address is already full, we 'stack' the new z in the reserve address, and add a pointer to our original (full) address telling us whereabouts on the stack the second coordinate is.

If any more duplicate z coordinates come along we do the same, but adding the last pointer to this new z before we stack it.

Author: Simon 'Henley' Morris



Window envelopes?

Regular Paul Marshall has supplied us with a simple desktop solution to a classic word processing problem. He explains:

'Probably one of the most common uses for a home computer and printer is to write letters, but to produce a beautifully professional letter on a DTP package and then put it into a hand-scrawled envelope is a bit of a let down.

'Yet the majority of micro users I know – even users of *Impression* – hand-write their envelopes. It's just too much trouble to set up.

'I use an HP DeskJet printer which is able to load envelopes, but preparing the text to print on the envelope can be a bit tedious. Having typed the address into a word processor some require the file to be saved before printing, or if using a DTP program you may have to load a template file and remember to select the correct paper size in the printer driver. *Edit* is quick but doesn't offer printer control.'

Paul's solution is quick and easy to use. Click on the *Envelope* icon to bring up a simple window. Enter your address here and when ready, select Print from the menu (you'll need to have a printer driver loaded, but you needn't worry about setting paper size etc).

More usefully still, *Envelope* allows drag and drop data exchange and file loading (of filetype 'Text'), so the address can be dragged off the heading of the letter in your word processor or taken out of an address list.

Paul suggests setting up a database of addresses using good old *Edit*. The 'Find Text' option quickly locates a name – no need for complex database software.

Also available from the *Envelope* menu is an options window. Here you can specify the line spacing (four per inch is usually about right) and the top and left margin – for positioning the address on the envelope.

You can also choose bold or enlarged print if desired. Specify which sort of printer you have (currently only Epson and Hewlett Packard PCL are supported) and save your choices.

Paul admits that a down side to his application is that the printer control codes are contained within the program. However, *Envelope* is intended as a simple and practical solution to an age-old problem, so I'm sure many will find it invaluable.

Paul says that it shouldn't be too difficult to adapt *Envelope* to work with other printers, since only simple commands are needed. 'There are two different procedures for sending out the codes, as HP and Epson use a different method for sending parameters.

'HP uses printable characters e.g. a parameter of 20 would be sent as "2" then "0" whereas Epson uses numbers in the 0-255 range, so 20 is sent as one byte.

'Codes are sent out directly to the printer using the good old VDU1,n.' Should you want to adapt the program to work with your own obscure printer make, alter **PROCselect_codes** at the end of *!RunImage*. The procedure is commented and should be fairly self-explanatory.

Author: Paul Marshall

All squared up

4Square is a deceptively simple desktop game similar to *Tiles* featured on the May cover disc. However, whereas *Tiles* had an element of luck, *4Square* is a puzzle which can be solved.

The objective is to move all the tiles in the store on the right to the playing board on the left. The puzzle is that adjacent edges of tiles in play must contain the same value, in much the same way as tiles in *Tiles* had to match in colour.

Tiles are only 'in play' when on the playing board and can be arranged any old way when in the store.

To move a tile simply drag it with the mouse. On Risc OS 2 the tile is highlighted and an outline is dragged. On Risc OS 3 the DragASprite module can be configured active, in which case the whole tile is dragged. Invalid moves are rejected with a beep. It is possible to swap two tiles by dragging one to the other.

One very useful feature is clicking on an empty board square or Shift clicking on a tile in play. This will highlight the pieces in the store that could be placed in this square.

The board size and range of tiles may be altered via the new game sub-menu. Here, the board can be varied from 3x3 to 8x8 (but must always be square) and the tile range from four (numbers 0-3 are used) to ten (numbers 0-9). Click on OK or New Game to set the size and start a new game. As mentioned at the start, this game is deceptively simple – it is also quite frustrating. Just when you think you're on to a winning streak you suddenly find the wheel's come off and it's all gone pear shaped and you have to start again – a great game for whiling away the minutes during a disc format.

Author: Darren Salt

MUSC of the month

One consequence of our Most Useless System Call of the month spot is that in each case at least one person jumps to the defence of any nominated call, giving a good example of when to use it.

For example, **Wimp_DecodeMenu** has been used by none other than *Acorn User*'s own David Matthewman who finds it handy for pop-up menus.

This month's nominee is another old **OS_Byte** call left over from the days of BBC Bs and the like. Simon Pollard of Cambridge suggests **OS_Byte 1** is the MUSC since it only writes the user flag and apparently corrupts R2 in the process. The user flag is one byte of memory 'guaranteed to be unused by the OS'.

Well Simon, pretty useless these days I grant you, and I wouldn't recommend anyone to employ it, but just the other week I was tempted to use this very call. I needed to pass a TRUE or FALSE type value from a *!Run* file into the *!RunImage* which it eventually ran. I finally did this the 'legal' way by setting a system variable up with ***Set** in *!Run* and then reading it in the main program.

However, it would have taken *much* less code to do a:

```
*FX 1
```

and a

```
SYS "OS_Byte",1 TO ,value
```

Any suggestions for MUSCs, or defences of them to the usual address please.

RiscPC keys

This program from regular Nick Craig-Wood is for Risc PC owners who are discontented with their PC-style keyboard.

From what we can tell, 50 per cent are 'relieved' to finally have a compatible keyboard and 50 per cent feel like load testing the thing with a JCB.

The program loads in the keyboard driver modules and patches them, producing the following in the current directory:

- *Keyboard+*. This swaps CapsLock with the left-hand Ctrl key. For some reason though, this stops LH-Shift-LH-Ctrl-F1 from working. However RH-Shift-LH-Ctrl-F1, RH-Shift-RH-Ctrl-F1 and LH-Shift-RH-Ctrl-F1 all work. None of the other function keys are affected.
- *IntKeyBrd+*. This makes the keyboard layout into that of an Acorn layout rather than a PC layout.

You can use this with a US PC keyboard (they have the same layout as the old Acorn ones) or with the one supplied with the Risc PC with lots of sticky labels It also adds: Alt-Shift-4 (= ALT-$) = £ (for US PC keyboards which don't have a £ key) and the 'sexed' quotes: Alt-Z = ', Alt-X = ', Alt-Shift-Z = " Alt-Shift-X = " and you'll find (new to Risc OS 3.5) Alt-Shift-3 = ¤.

To make the new modules, simply run the *KeyPatch* program. It will produce the two modules above. You can use one or the other or both just by double-clicking on them.

If you want one or more of the modules loaded by default put it/them in *!Boot.Choices.Boot.PreDesk* and it/they should load automatically on boot up.

Some further notes from Nick: 'I wrote this because I wanted a new keyboard for my Risc PC but didn't want a UK layout one.

'I can't stand having the \ key between Shift and Z because it ruined my touchtyping. Also, I wanted to have Ctrl and CapsLock the old way round.

'I have used the modules with some success with a keyboard called Flash 101 made by Keytronic.

'This is a US layout keyboard with the ability to remap keys and program macros in – it was quite expensive though. However I think a standard US layout PC AT (with PS/2 connector) keyboard would do just as well.'

Author: Nick-Craig Wood

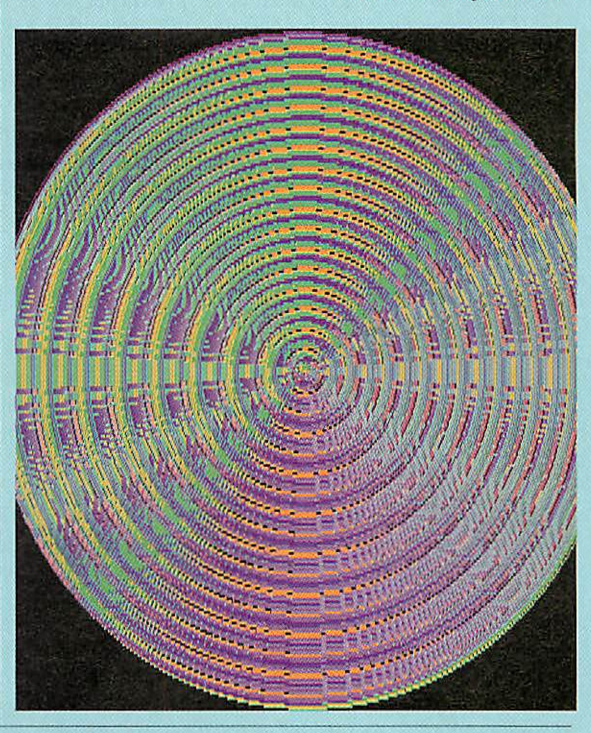
More graphics

Two quickies from Andy Jefferies. There's not really much to say about these two.

Firstly *Rock* draws a granite/cloud/rock type effect using averaging and random fluctuations and then cycles the colours to produce a plasma-like display.

Secondly, *Platinum/1* is a one-liner palette twiddler that produces an effect similarish to a spinning platinum disc.

Author: Andy Jefferies



Martin Van Mourik Madness

Would you believe us if we said we had another mad European producing graphical doodles? Would you believe us if we then told you that (although he lives in Wales) he is called Jean Van Mourik and is in regular contact with Jan Vibe? We've received a disc full of all sorts of strange things, so expect to see a lot from Jean over the next few months.

We kick off quite simply with *Martin* which produces an image based on point-hopping – a method akin to all the strange attractors we have carried over the years.

Martin works in a 16 colour mode with a rainbow palette. 1567 points (we're sure there must be a reason...) are plotted in each colour. The points are generated by applying a very simple algorithm to the previous pair:

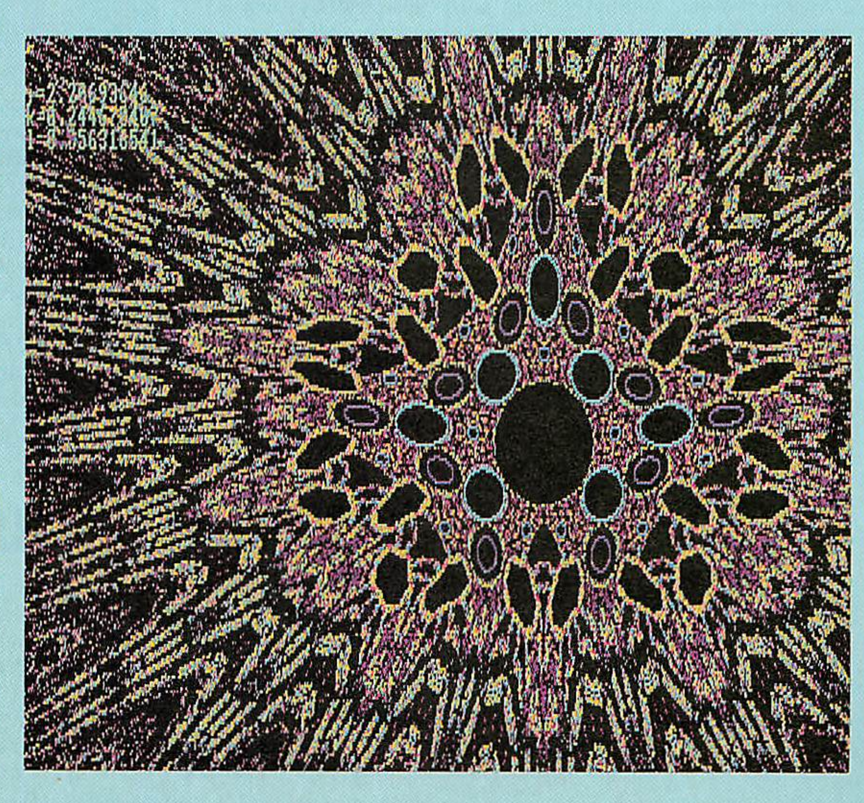
```
x' = y - SGN x * ABS ( K * x - L)
y' = J - x
```

where **J**, **K** and **L** are randomly chosen for each plot. The point plotted is **x+y**, **x-y**.

The left mouse button forces plotting of points at the pointer's position.

The middle button zooms in and the right button restarts with new random values for **J**, **K** and **L**. Save by pressing S.

Author: Jean Van Mourik



IFS codes revisited

IFS codes are a common haunt for *INFO contributors. This latest version from Richard Seago has been included because it runs really rather fast.

The program does not multitask (any offers for a superfast, machine code, desktop IFS plotter?). There are two versions of the program in the application directory – *FastProb15* runs in mode 15, *FastProb21* in mode 21. Whichever is run can be changed by adding/removing a | in the *!Run* file.

The codes are stored as text files in the *CodeFiles* directory. and the file format is explained below. A fractal can be saved in the *IFSPicture* directory by pressing 'S'. Any other key returns straight to the filename prompt. Because of the way fractal definitions are stored as text files, this program is ideal for learning what transformations do to different fractals.

The program uses fixed point numbers as defined in the files. Because numbers can become too large, the file format allows this to be set for each fractal (normally 13 or 14 binary digits). 256 colour modes were chosen because they are easy to write direct to. The code to generate a fractal is compiled each time, so it can be optimised for each fractal.

The IFS description files follow a very simple format:

```
1) Fractal name
2) No. of transformations (1-16)
3) trans1
4) trans2
...

n) transX
n+1) Accuracy (no. of bits in fraction: 1-14, Nb also
affects the scale. Decrease if 'Number too big' error
occurs)
n+2) Scale (larger no. => smaller image, 1-31) increase
no. if 'Abort on data transfer' error occurs
n+3) no. of iterations to use.
n+4) x axis offset
n+5) y axis offset
```

where a translation is of the form:

```
a, b, c, d, e, f, prob
```

where:

```
x'=ax+by+e
y'=cx+dy+f
```

and have a probability **prob** of occuring:

```
0<=prob<=1
```

Author: Richard Seago

The Jan corner

Three weird, wonderful, wacky, multi-coloured oddities from good old Jan Vibe. The first one is *Square*, according to Jan. It uses ColourTrans and demonstrates a colour mixing procedure.

Jan says he has introduced a little random 'noise' to the RGB values passed to ColourTrans which give a certain unpredictable something to the finished picture. Run the program and see.

The second program, *Tartan*, uses a similar process but applies it to overlapping bands of colour. The angles of these bars is chosen randomly, so run the program a few times to see lots of subtly different effects.

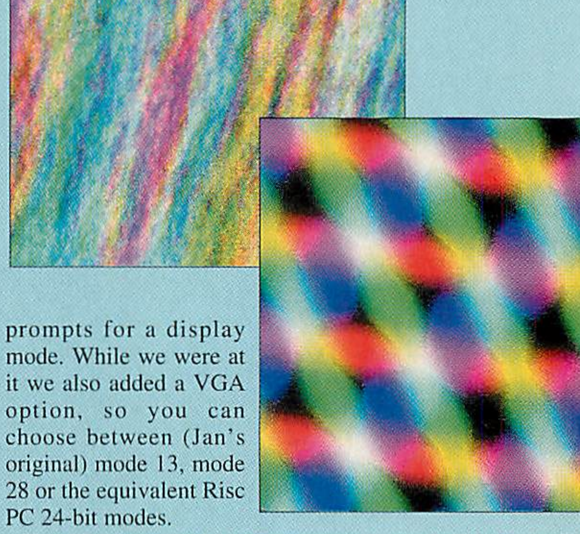
The final demonstration of this technique has been christened *Dramatic* by Jan, and not without good cause. He says that it is merely an adaption of his one line Granite plotter. All we can say is how much is the stuff and can he fed-ex some over please?

But seriously, the ouput of *Dramatic* is really, rather, er, dramatic and probably an ideal source of tie-dyed tee-shirts. If we'd felt really mean, we would have said this is actually another stereogram generator.

These programs seemed like excellent candidates to show off the graphical capabilities of the Risc PC, so we had a quick fiddle about with them and made them work with 16 million colours!

We have attached a short menu to the front of each which prompts for a display mode. While we were at it we also added a VGA option, so you can choose between (Jan's original) mode 13, mode 28 or the equivalent Risc PC 24-bit modes.





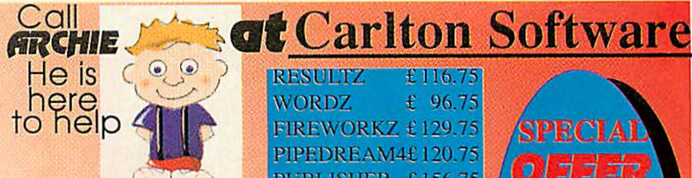
If you're interested in programming, note we have replaced the call to ColourTrans with a simple **GCOL** – as 24-bits can display all possible colours anyway. Also note the **GCOL** can now take three parameters to set a specific RGB value – very handy.

Author: Jan Vibe

*QUIT

All submissions, large or small, are very welcome. Send to *INFO, Acorn User, Europress Publications Ltd, Europa House, Adlington Park, Macclesfield SK10 4NP.

Name, address and program title on every disc please and include a text file containing same. An SAE will ensure your disc's return. Also include whatever instructions, diagrams, examples and screenshots you can.



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Cyber Chess

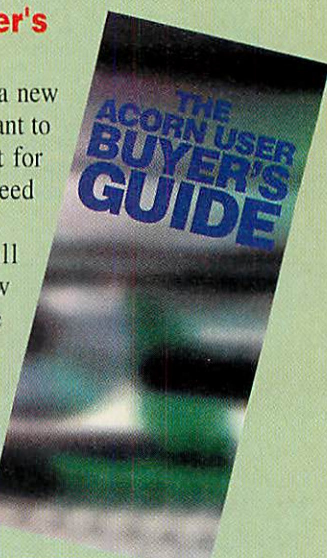
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Desktop +

A number of enhancements are brought to the Risc OS 3 desktop by *Desktop+*. Outline fonts can be used in filer windows, files can be dragged using 'transparent' sprites and directories as well as applications can have icons.

NewerLook

This comprehensively changes the look of your desktop by replacing the default icons with 3D equivalents. The implementation is even better than Acorn's *NewLook*, and includes a replacement for the standard hourglass.

FYEO2

This program is a fast JPEG to sprite converter, also handling TARGA, GIF and PPM files. It will output to sprites with up to 256 colours, and can use Floyd-Steinberg dithering to simulate many more colours.

SerialMse

This program enables PC-compatible mice to be connected to the serial port on your machine and used as normal.

Mangify

Mangify is a very fast desktop magnifier, ideal for desktop design work needing fine detail to be visible on the screen. The magnifigation, size and position of the window are all configurable.

Palette

This program replaces the Risc OS Palette manager on the icon bar. It gives a display of the mode number on the icon bar, a much freindlier way of changing modes and a number of different palettes. It is highly configurable and has a number of useful key-shortcuts. *Palette* also includes a screensaver to prevent burn-out on your screen.

Clear

This module allows text in writable icons – except in menus – to be cleared by double-clicking on them and then typing, rather like words in *Impression*.

WelcomeA

This program lets you replace the welcome screen on Risc OS 3.

TaskKill

This module will kill tasks that have 'hung'. Such tasks are stuck in an infinite loop, and never return control to Risc OS. The keyboard is still active, however, and *TaskKill* enables a key-combination to be used to abort the offending task. An essential module for developers

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THE MOXON INTERVIEW

TIM HUMPHRIES

Every programmer has a dream, and it goes something like this. You're sitting on a beach, with your computer (it's a programmer's dream, after all), and your boss is thousands of miles away on the end of a phone line.

And you love your work and program whenever you feel like, occasionally going for a dip in the sea or catching some rays to top up that stunning tan.

Idyllic? Too right, and it's just that sort of lifestyle that Tim Humphries, the programmer behind Aspex's excellent 3D designer *Architech*, can live if he wants to.

He lives in the Seychelles and communicates with Aspex – based in Tavistock, Devon – via FaxPack.

'My lifestyle isn't quite as glamorous as people would expect,' says Tim

'I don't program on the beach – unfortunately the cables don't reach that far – and I'm actually based in a church building.

'And I don't have much of a sun tan: I'm too busy working, of course.'

Still, life can't be bad, living in such a beautiful and sun-drenched spot, pursuing your hobby.

'Life is good,' admits Tim, 'but working in the Seychelles is not without its problems.'

Yeah, like getting sunburnt or having to drag yourself off the beach to do some programming? Sounds like a real trauma, I *don't* think...

'Well, actually, there's quite a lot to cope with,' says Tim. 'There was one time when I was connected to Aspex over the FaxPack, and my computer totally locked up.

'It was only when I opened up my A3000 that I found the problem: a cockroach had crawled inside it and used the the Arm chip as a toilet.

'I spent ages cleaning it up and it now works fine. Didn't smell too good for a while, mind.'

Cockroaches? Hang on, there's nothing in the glossy holiday brochures about cockroaches...

'And then there was the time a dog relieved itself on my floppy disc drive,' Tim recalls. 'I simply washed it under a tap, dried it off with my hairdryer, and it worked fine.

'And there's the problem with the electricity – the main switch for the street is on a lamp post down the road, and occasionally passers by think it would be amusing to turn it off. It certainly teaches you to save your work regularly.'

Sounds like your everyday programming hassles, then. On the other hand, looking at the amazing graphics manipulation in *Architech*, there's no doubt that beneath this surreal lifestyle, Tim is a coder of some talent. Guess how it all started...

'I had a ZX81,' says Tim, 'then I got a Beeb, and then an Archimedes. I really love Acorn's machines, and I'm definitely going to stick with them. Coding in Arm assembler is great – it's fast, and there are only a few instructions to learn.

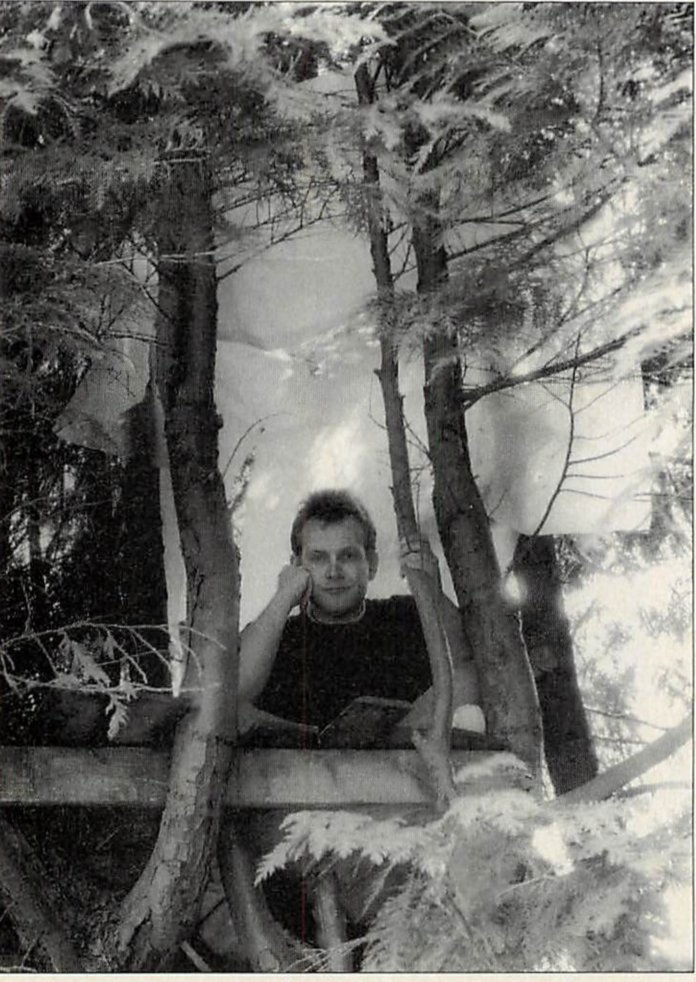
'It's also good for optimising: I can get a feature up and running slowly in a couple of days, and then I'll spend a couple of months optimising it.'

So how did *Architech* come about? Is Tim the kind of person who does matrix transformations in his sleep?

'I'm no mathematician,' says Tim, 'I'm actually from an art background, and the first real program I wrote on the Arc was the art package *Arcol*, which I wrote for myself as an artist. I just wanted to be able to use all those lovely colours.

'I then moved on to three-dimensional graphics with *Spex*, *Tabs* and a 3D renderer called *ArcSpace*, and *Architech* has basically grown out of combining these last two.

'I've had to teach myself all the technical bits of 3D, and because I'm stuck out far away from everywhere, I don't end up going down the usual programming routes. This enables me to come up with different approaches to problems, which can be a bonus.'



REGAN

'Architech is no mean feat, but there's plenty more where that came from.'

It works – *Architech* is no mean feat, but there's plenty more where that came from, especially with the new graphical capabilities of the Risc PC.

'I've designed *Architech* to be very expandable,' explains Tim. 'It's built around a modular system, which can all be joined together, and there are a lot of new developments I can add to the program. Effectively the version we are selling now is just the start of *Architech*.

'And with the Risc PC arriving, we'll get a 24-bit version of *Architech* working, which will allow quite stunning photographic quality rendering to be done.'

So there you have it. The Seychelles: sun, sea, sand and silicon. As close to Utopia as a programmer can get.

Mark Moxon

ImageFS

The Universal Bitmap Filter for RiscOS computers



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ImageFS is a ***revolutionary*** new utility for Acorn RiscOS computers.

It allows ***drag-and-drop*** of a huge range of foreign bitmap files ***directly into any RiscOS application*** that loads Acorn Sprites. It's as simple as that... no nonsense with translation programs or converting to intermediate sprite files first. And you can keep the original file in all its glory, to load it again any time you like.

ImageFS automatically creates the most appropriate Sprite choosing from black and white right up to photo-realistic 32bpp colour. There's no delay and no fuss. ***ImageFS*** is incredibly fast, decompressing, converting and dithering images on-the-fly. And it only uses around 20K of workspace to convert an image of any size - even 20 Mb TIFFs !

ImageFS is the prefect companion for anyone working with graphics. It gives direct access to a huge range of quality images from other computers, which can be used just as if they were sprites... even directly from PC and MacIntosh CD's.

ImageFS is ideal for users of packages such as Impression, Ovation, ArtWorks, ProArtisan, Vector, PhotoDesk, hypermedia (Genesis, Magpie, etc), rendering software, morphing utilities....the list is endless.

And of course, ***ImageFS*** works perfectly with the ever-popular !Draw and !Paint... in fact, just about anything.

What the Magazines say...

"...in comparison with other utilities, the speed of conversion was very impressive, and the quality of the converted image was very high..."
(Risc User Magazine)

"Occasionally someone writes a utility which instantly becomes indispensable. ImageFS is one such program, and I would consider its purchase essential..."
(Risc User Magazine)

"ImageFS is an excellent idea extremely well implemented: it works a treat, and is very good value for money."
(Risc User Magazine)

"ImageFS is an excellent product at a superb price..."
(Acorn Archimedes World)

"...if you use your Acorn for any image processing work, then you will definitely want a copy of ImageFS."
(Acorn Archimedes World)

"For any serious image processing work, ImageFS is a must."
"Buy this program as soon as you can."
(Acorn Archimedes World)

"Alternative Publishing's innovative utility ImageFS will probably prove invaluable to anyone accessing files from a variety of machines"
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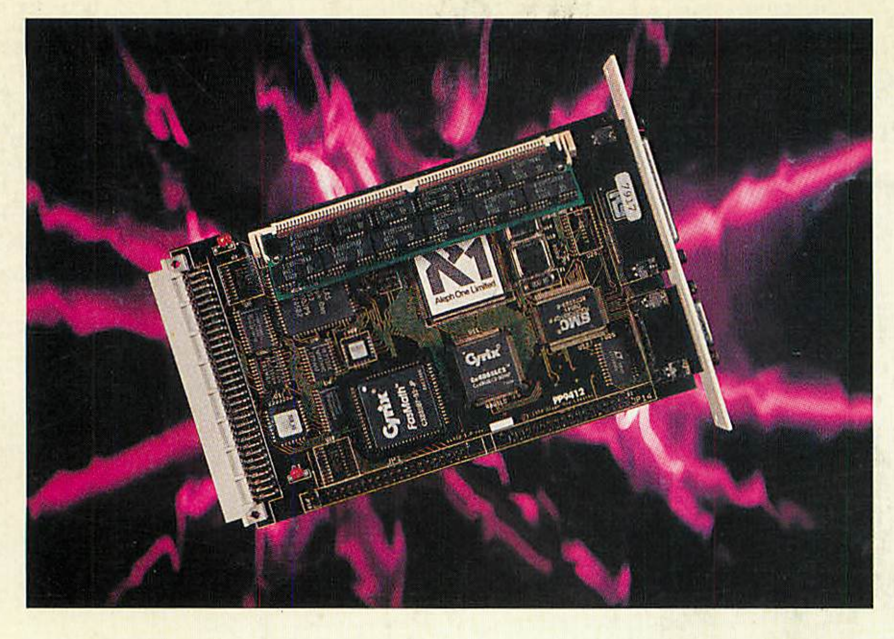
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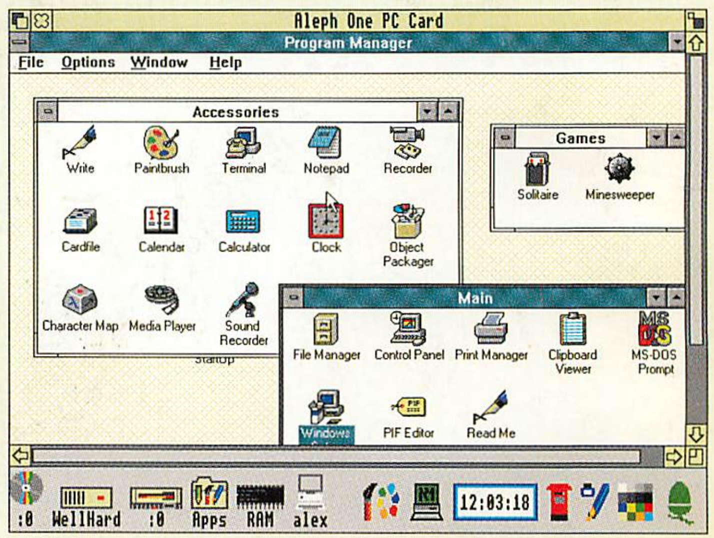
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